PRESENT LAW AND ISSUES RELATED TO THE TAXATION OF FINANCIAL INSTRUMENTS AND PRODUCTS

A REPORT TO THE
JOINT COMMITTEE ON TAXATION

Prepared by the Staff
of the
JOINT COMMITTEE ON TAXATION

December 2, 2011
JCX-56-11

CONTENTS

INTRODUCTION AND SUMMARY

Introduction

This document[1] has been prepared by the staff of the Joint Committee on Taxation, in response to the request of the Chairman and Vice Chairman of the Joint Committee on Taxation for a report of Federal tax rules relating to the taxation of financial instruments.[2]

Starting in 2008, there have been a series of financial shocks, an ensuing worldwide recession, and persistent instability in global financial markets. The volume of financial instruments traded in the United States and abroad increased dramatically in the two decades preceding these developments. Policymakers have sought to understand the role of financial instruments in the economy.

At the same time, policymakers have been interested in the tax treatment of financial instruments, in part out of concern about inconsistent treatment of instruments with similar economic characteristics.

Financial instruments include basic investments such as stocks and bonds (or, more broadly, equity and debt), assets that combine features of both equity and debt, and contracts referred to as derivatives. Derivatives are instruments the value of which derives from the value of other property, liabilities, or other measures. Common derivatives are options, forward and futures contracts, and swaps. The tax term for a swap is a notional principal contract.

Options, forwards and futures, and swaps have the following definitions:

- An option is a contract between two parties that gives the holder of the option the right but not the obligation to buy from (in the case of a call option) or sell to (in the case of a put option) the issuer of the option a specified amount of property (such as 100 shares of Microsoft stock) at a fixed price and specified time.
- In a forward contract one party to the contract obligates itself to purchase from the other party a fixed quantity of property (such as 1,000 shares of General Electric stock) at a fixed price on a fixed future date.
- A futures contract is a standardized forward contract that is traded on an exchange such as the Chicago Mercantile Exchange. Futures contracts historically have been for the purchase and sale of commodities.

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[1] This document may be cited as follows: Joint Committee on Taxation, *Present Law and Issues Related to the Taxation of Financial Instruments and Products* (JCX-56-11), December 2, 2011. This document can be found on our website at www.jct.gov.

[2] The request was made at the 112th Congress Organizational Meeting of the Joint Committee on Taxation on March 15, 2011.

- A swap or notional principal contract is an agreement between two parties to exchange over a specified period of time payments that are calculated by reference to an identified instrument (such as stock or a basket of stocks), index (such as the S&P 500 stock index), other amounts (such as fixed or variable interest rates), or the outcome of a specified event (such as a corporation's default on its indebtedness).

Equity, debt, and derivatives are traded in public markets on exchanges and by private means, also referred to as over-the-counter ("OTC") trading.

In absolute and historical terms, the volume of financial instruments traded in the United States is large. As Table 1 illustrates, at the end of 2010, U.S. persons held or issued $9.4 trillion of Treasury securities, $11.5 trillion of corporate and foreign bonds, $13.8 trillion of mortgages, $23.2 trillion of corporate equities, and $7.9 trillion of mutual fund shares.

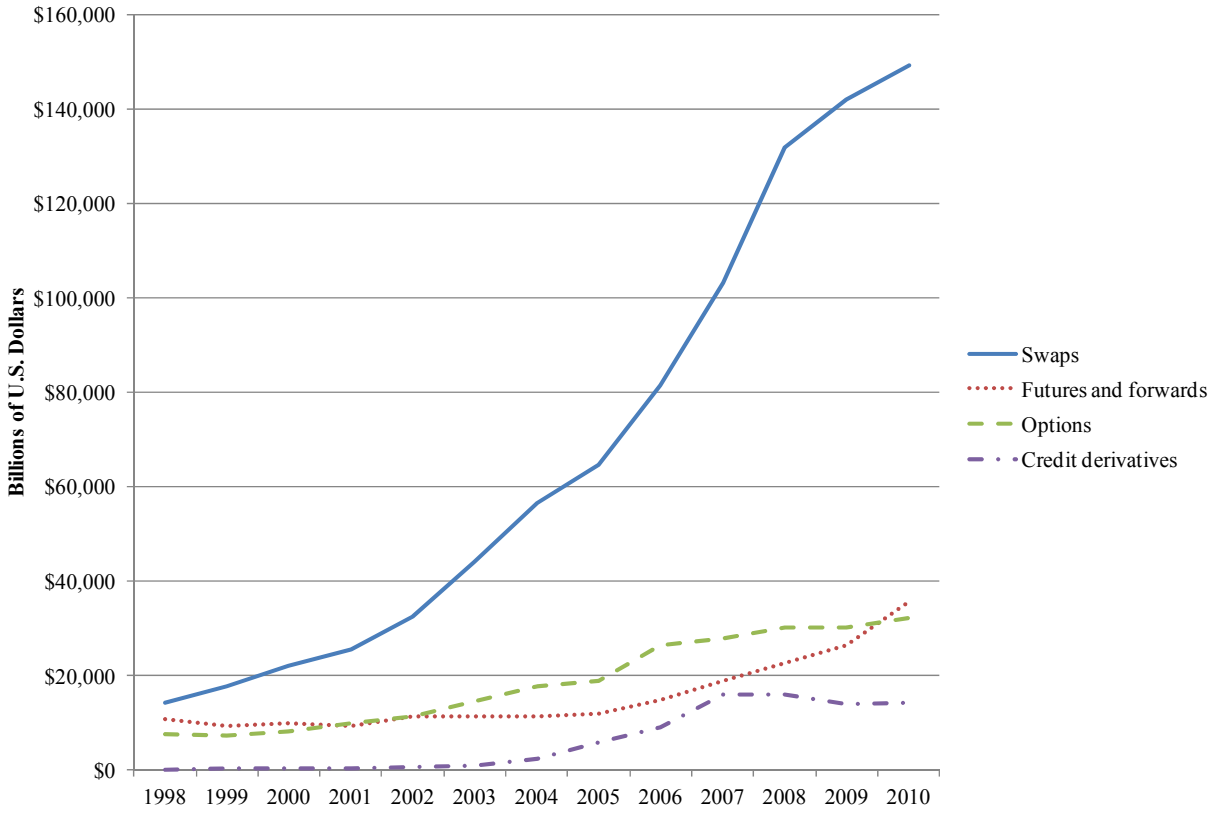
Table 1.−Selected Financial Instruments Issued or Held by U.S. Persons
As of December 31, 2010
(Billions of U.S. Dollars)

	2010
Money market fund shares	2,755
Credit market instruments	52,494
Open market paper	1,058
Treasury securities	9,362
Agency- and GSE-backed securities	7,598
Municipal securities	2,928
Corporate and foreign bonds	11,473
Bank loans not elsewhere classified	1,874
Other loans and advances	1,951
Mortgages	13,817
Consumer credit	2,435
Corporate equities	23,247
Mutual fund shares	7,935
Security credit	1,215

Source: Federal Reserve Board, Flow of Funds.

Figure 1 shows the rapid growth since 1998 in the notional amount outstanding of swaps (not including credit derivatives) held by banks required to report to the U.S. Office of the Comptroller of the Currency, from $14.3 trillion at the end of 1998 to $149.2 trillion at the end of 2010. Futures, forward, and option contract volumes have grown less quickly. The notional amount outstanding of credit derivatives (credit default swaps) has grown from $144 billion at the end of 1998 to $14.1 trillion at the end of 2010, after peaking in 2008 at $15.9 trillion.

Figure 1.–Notional Amount Outstanding of OTC and Exchange-Traded Derivatives, As Reported to the U.S. Office of the Comptroller of the Currency, by Product



Source: Office of the Comptroller of the Currency.

This report proceeds in the following manner. Section I describes economic, financial accounting, and regulatory considerations related to holding, issuing, and structuring financial instruments. Section II describes in broad terms the basic U.S. income tax principles of timing, character, and source that underlie the taxation of financial instruments. Section III provides an overview of the timing, character, and source rules for five financial instruments – equity, debt, options, forward contracts, and notional principal contracts. That section also describes economic relationships among various financial instruments (so-called put-call parity) and the financial accounting treatment of financial instruments. Section IV is a discussion of selected timing, character, source, and categorization issues in the taxation of financial instruments. This section includes background on problems that have arisen related to taxpayer trading in financial instruments and how those problems have been addressed (or have not been addressed) by legislation and regulation. An appendix presents data about holdings and issuances of financial instruments.

Summary

Individuals and businesses have various economic motives for trading in financial instruments. For example, businesses issue financial instruments to raise money to finance projects, and individuals hold financial instruments to achieve returns on savings. Businesses also use financial instruments to hedge against risks such as price fluctuations in raw materials, exchange rate movements, and changes in the cost of capital. These financial instruments include equity and debt, instruments that combine features of equity and debt, and derivative instruments. The decision to hold or issue one instrument rather than another is based on a number of economic considerations including the riskiness of a particular instrument, the timing of cash flows produced by the instrument, and the rights or obligations, such as voting control, of the parties to an instrument.

Businesses also take into account financial accounting and regulatory considerations in holding, issuing, and structuring financial instruments. Financial reporting is intended to provide information to investors and the public about the economic condition of the reporting firm. A particular firm considering equity or debt financing may prefer the financial accounting results of issuing one form of capital rather than the other. Financial accounting issues may arise because some instruments have characteristics of both equity and debt. There are also questions about whether a particular instrument or transaction must be reflected on a firm's consolidated balance sheet or instead is considered "off balance sheet" because, for example, it is held or undertaken by a special purpose entity. Regulated financial institutions may issue or hold one financial instrument rather than another economically similar instrument because the chosen instrument yields favorable results under capital adequacy requirements.

Tax considerations affect decisions related to holding, issuing, and structuring financial instruments. The taxation of financial instruments generally depends on a categorization based on the type of instrument rather than on the economic characteristics of the instrument, though those economic characteristics affect the categorization. Because instruments with similar or identical economic characteristics may be categorized differently from one another, a taxpayer with a particular economic goal may choose one instrument rather than another because of tax considerations.

Timing, character, and source are principles fundamental to the U.S. income tax generally and, more particularly, affect the taxation of financial instruments. The timing principle relates to when an item of income or expense is required or allowed to be taken into account for tax purposes. Some financial instruments (such as debt) produce income that is required to be taken into account annually, while other instruments (such as stock on which no dividends are paid, options, and forward contracts) produce income that is taken into account only when there is a realization event such as the sale of the instrument or the underlying asset. The character principle concerns whether an asset or a liability, or an income or expense item, is capital or ordinary in the hands of a particular taxpayer. Many factors, including the status of a taxpayer in the marketplace and whether property is held as inventory or an investment, affect character. Consequences of the characterization of income as capital or ordinary include the rate of tax applicable to the income and whether loss limitation rules apply. The source of income as foreign or domestic is determined on a category-of-income basis by factors including the residence of the recipient of the income, the residence of the payor of the income, the location or

place of use of the property producing the income, and the location of the activities producing the income. Whether an item of income is foreign or domestic affects U.S. and foreign taxpayers differently. Both U.S. and foreign taxpayers with cross-border activities generally prefer to have foreign-source income, foreign taxpayers because in general they are taxed by the United States only on U.S.-source income and U.S. taxpayers because the foreign tax credit is allowed to reduce only U.S. tax on foreign-source income.

The timing, character, and source rules apply differently to (and are sometimes uncertain for) equity, debt, options, forward contracts, and notional principal contracts. These five basic instruments can be combined in various ways to replicate the economic returns of any underlying asset. Individuals and firms also regularly create new instruments intended to produce particular economic outcomes. This ability to combine basic instruments and to create new instruments represents financial innovation that might lower the cost of capital for business expansion or might mitigate the risk of new projects. The flexibility of financial instruments also creates great difficulties in the taxation of financial instruments. This report provides examples of taxpayers' uses of financial instruments to achieve desired timing, character, and source outcomes and describes how the tax laws have or have not addressed this tax planning.

I. CONSIDERATIONS IN HOLDING, ISSUING, AND STRUCTURING FINANCIAL INSTRUMENTS

Individuals and businesses hold, issue, and structure financial instruments to achieve a variety of economic objectives such as raising capital, producing fixed or variable income streams, or hedging risks such as price and interest rate fluctuations.

The taxation of financial instruments principally depends on a categorization based on the type of instrument rather than on the economic characteristics of a particular instrument. In some circumstances those economic characteristics affect the instrument's categorization. Because instruments with the same or similar economic characteristics may be categorized differently from one another for tax purposes, a taxpayer who has a particular economic objective may choose one financial instrument rather than another because of tax considerations.

By holding one instrument rather than another, a taxpayer may achieve a desired timing of income or expense recognition, a desired characterization of income or loss as capital or ordinary, or a desired source of income or expense as foreign or domestic. Tax rules governing timing, character, and source determine the treatment of the various categories of instruments.

Although tax considerations may affect the type of financial instrument that an individual or business chooses to hold or issue, nontax considerations also guide decisions about trading in financial instruments. This section describes economic, financial accounting, and bank regulatory considerations related to trading in financial instruments.

A. Economic Considerations

Financial instruments generally

Financial instruments facilitate transfers of cash or property with specific timing and risk characteristics at a particular price or expected return. Businesses issue financial instruments primarily to raise money to finance investment projects. Individuals typically hold financial instruments because they have savings upon which they would like to earn a rate of return.

These financial instruments may be common stocks or other forms of equity, bonds or other forms of debt, hybrid instruments that combine features of equity and debt, or derivatives. The economic choice to issue or to hold a particular financial instrument depends on a variety of factors including the rights and obligations the parties may have (*e.g.*, voting control, or rights in bankruptcy), the risk of paying or receiving any return (*e.g.*, entirely subject to the fortunes of the venture, or an unqualified promise to pay a sum certain on a specified date), and the timing of cash flows.

Derivatives

A derivative is a financial instrument the value of which is dependent upon–derived from–the value of an underlying asset or index, or the occurrence of an event with an ascertainable outcome.[3] Two parties enter into a contract that specifies the timing and amount of any payments (in cash or in kind) to be made between them where the amount is determined with reference to the value of the underlying asset. Common types of derivatives include: (1) options, which provide one party the right but not the obligation to purchase a quantity of the underlying asset at a set price, (2) forwards and futures, which obligate one party to purchase or sell a quantity of the underlying asset at a set price, and (3) swaps, which involve the exchange of returns on underlying assets. The most common type of swap is an interest rate swap in which parties exchange fixed interest rate payments for floating interest rate payments on a loan. Many other types of derivatives have been created. New derivatives can be created to customize the rights and obligations, risk, returns, and timing that issuers and investors desire.

Derivative financial instruments allow participants to alter the risk and the distribution of returns of their portfolios relative to holding the underlying investments. For example, instruments that eliminate the risk of some position in a portfolio, or an entire set of positions, serve the function of hedging. Alternatively, derivatives can increase risk in a portfolio as the cost of seeking higher returns.

Businesses regularly use commodity derivatives to hedge against price fluctuations in raw materials. Similarly, businesses commonly use currency derivatives to hedge against exchange rate fluctuations and interest rate derivatives to hedge against changes in the cost of capital. An investor or a portfolio manager that owns an underlying financial instrument may

[3] There are derivative financial instruments the value of which is dependent upon the value of stocks, stock indices, commodities, interest rates, weather-related events, and credit default events, among others. For ease of exposition, this report generally uses the term underlying asset to include any of these potential items.

use a derivative to hedge against a decrease in its value. Other investors may use derivatives to establish leveraged risky positions consistent with the investors' specific views of future market movements.

Derivatives are fundamental tools to manage risk. For example, the flexibility of the OTC derivative market enables taxpayers to create customized contracts to accomplish their trading and portfolio strategies. The trading of derivatives (and the quotation of their prices) makes markets more efficient by facilitating price discovery,[4] both with respect to related derivatives and with respect to the underlying assets.

Derivative contracts typically afford a party much higher leverage than would be possible (or permitted by relevant margin regulations) if the party were to establish a position in the underlying asset.[5] That is, an investor may use derivatives to take on more risk, in the expectation of greater return, with respect to the price of the underlying asset with smaller cash outlays than would otherwise be possible. For example, an investor with $1,000 could purchase 10 shares of $100 stock. Suppose that an option to purchase a share of the same stock for $100 costs $5. The same investor could purchase options on 200 shares of stock with $1,000. The options magnify potential profits in the same manner as leverage, by exposing the investor to more shares.

Alternatively, options on 10 shares could be purchased at a significantly lower cost than purchasing the 10 shares outright. At $5 each, the investor could purchase options on 10 shares for $50 rather than purchasing 10 shares outright for $1,000. The options allow a slightly smaller potential for gain because any movement in the stock price is reduced by the $50 option premium paid. However, they limit the amount of any loss to the $50 option premium paid (as opposed to $1,000 had the investor purchased the shares outright).

An investor could also enter into a total return swap on 10 shares of stock in which the investor receives payments from a counterparty for any dividends and appreciation in the stock price and makes payments to the counterparty of interest and for any depreciation in the stock price.[6] With this arrangement, the investor realizes the return on 10 shares of stock with no upfront investment of his own capital. It is as if the investor makes a 100-percent leveraged purchase of the stock. By contrast with the example in which the investor buys options to acquire the 10 shares of stock (and the potential loss is limited to the $50 option premium paid), the potential loss under the swap contract is the entire value of the shares ($1,000).

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[4] Price discovery is the process by which information about market conditions are incorporated into the price of goods or assets. Interactions between buyers and sellers in a free marketplace determine the market price or value based on supply and demand. For a study of price discovery and derivatives markets, see Torben G. Anderson, et al., "Real-time Price Discovery in Global Stock, Bond, and Foreign Exchange Markets," *Journal of International Economics*, vol. 73, 2007, pp. 251-277.

[5] See the discussion of the relevant margin regulations on page 41 of this document.

[6] Payments under a total return swap are typically netted so that only one party makes a payment at any one time.

B. Financial Accounting Considerations

In general

The Financial Accounting Standards Board ("FASB") has promulgated standards known as Generally Accepted Accounting Principles ("GAAP") and created a conceptual framework for financial reporting that it uses in setting the relevant standards. This framework specifies that financial reporting is intended to provide information that is useful for making reasoned choices among alternative uses of scarce resources in the conduct of business and economic activities.[7]

The objective of financial reporting is to provide information that reflects the underlying economics of a transaction. In some instances, however, an economic arrangement can be structured in alternative ways to achieve different financial statement treatment. Firms may prefer one alternative financial statement treatment to another, depending on the firm's particular circumstances. At other times, the use of financial instruments and transaction structures are primarily motivated by accounting and reporting concerns, rather than by the economics of the arrangement. Structuring transactions to achieve accounting and reporting goals that do not conform to the economic substance of an arrangement may reduce transparency in financial reporting.

Debt versus equity financing

A firm interested in raising additional capital can do so by issuing traditional debt or equity instruments. Each option has its drawbacks in terms of control of the firm, earnings, and various financial ratios. Additional stock offerings dilute the ownership of the firm (and earnings per share) and may dilute control of the firm. Additional issued debt generally has no impact on ownership or voting control, but increases interest expense (decreasing earnings) and increases the risk of financial distress. In addition, lenders typically require borrowers to agree to various covenants and limitations.[8] Because of the covenants and limitations associated with debt financing, a firm with a certain amount of indebtedness may have difficulty issuing additional debt. Depending on a firm's individual circumstances, one firm may prefer the financial accounting impact associated with raising capital through issuing equity, while another may prefer the financial accounting impact associated with debt financing.

Financial innovation provides companies with alternative sources of financing, but also increases the complexity and risk for the users of financial information. Today many financial instruments have characteristics of both debt and equity. As financial instruments have become

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[7] FASB, *Concepts Statement No. 1: Objectives of Financial Reporting by Business Enterprises ("Con. No. 1")*, November 1978, par. 9. Although the FASB Concepts Statements do not establish generally accepted accounting standards, they are intended to serve the public interest by setting the objectives, qualitative characteristics, and other concepts for financial reporting. Furthermore, Concepts Statements guide the FASB in developing sound accounting principles and provide the FASB and its constituents with an understanding of the appropriate content and inherent limitations of financial reporting.

[8] See section III.C below for a more detailed discussion of debt and equity financing, and the financial accounting for instruments with characteristics of both debt and equity.

more complex, the form and substance of some financial instruments have diverged. The FASB has acknowledged that accounting standards do not adequately address the features in financial instruments that exist today.[9]

The FASB and the International Accounting Standards Board ("IASB") are undertaking a joint project to develop a comprehensive standard on financial instruments with characteristics of equity, liabilities, or both.[10]

Off-balance-sheet accounting

If a firm's investment in another legal entity is "consolidated," the gross assets and liabilities of the legal entity are reflected on the firm's consolidated balance sheet, regardless of whether the firm or the separate legal entity holds legal ownership of the assets and liabilities. However, if a firm's investment in another legal entity is not consolidated, the assets and liabilities owned by the separate legal entity would not be included in the firm's financial statements. Such an investment is referred to as off-balance-sheet.[11]

Special purpose entities (entities created to fulfill narrow, specific, or temporary objectives) are typically used to isolate a firm from financial risk.[12] They commonly hold derivative instruments (such as swaps) and perform other financial transactions for a sponsor firm. They have also been used to hide debt, hide ownership, and obscure relationships between different legal entities which are in fact related to each other. For example, prior to a change in

[9] For example, in its *Preliminary Views: Financial Instruments with Characteristics of Equity* (No. 1550-11), November 2007, the FASB notes that in some cases, an issuer can effectively choose how to report an instrument or instruments by altering their form without changing the substance very much, if at all. For example, under current accounting requirements, a written call option settled with cash is classified as a liability. However, a written call option is classified as equity if the issuer can choose to settle in cash or shares. The issuer may insert a share-settlement provision to obtain equity classification even if the intent is to settle in cash.

[10] At their joint meetings in April and October 2005, the FASB and the IASB discussed the future of reporting for financial instruments. The Boards worked jointly on a research project to reduce the complexity of the accounting for financial instruments. This joint effort resulted in the IASB's issuance of the March 2008 discussion paper, *Reducing Complexity in Reporting Financial Instruments*, which the FASB also published for comment by its constituents.

[11] See discussion of financial accounting rules for equity investments at III.C below. While the term off-balance-sheet may suggest something less than transparent, many legitimate transactions generate questions of whether items should or should not be included on the balance sheet. However, firms might be motivated by a desire to move poorly performing assets off the balance sheet or a desire to reduce the debt outstanding on the balance sheet to improve the appearance of the firm's financial position and liquidity.

[12] Special purpose entities are commonly used to securitize loans or other receivables. For example, if a bank wishes to issue a mortgage-backed security whose payments come from a pool of loans, the loans must be legally separated from other obligations of the bank to ensure that the holders of the mortgage-backed securities have the first priority right to receive payments on the loans. This legal separation is achieved by creating a special purpose entity and transferring the loans from the bank to the special purpose entity. Although the bank may have some residual obligation with respect to the securities transferred, the bank would not have legal ownership of the special purpose entity.

the GAAP standard for consolidation, if an independent third party holding a "substantive" investment (defined as at least three percent of the value of the special purpose entity's assets) was granted voting control of the entity by the sponsor firm, the special purpose entity was not required to be consolidated with the financial statements of the sponsor firm despite the fact that the sponsor firm bore the majority of the risks and rewards of the special purpose entity.[13]

The Sarbanes-Oxley Act[14] modified rules for corporate governance and financial reporting practices. As part of this legislation, the Securities and Exchange Commission ("SEC") was required to conduct a study of off-balance-sheet arrangements. The SEC found that the significant use of accounting-motivated transactions had contributed to a reduction in the transparency and credibility of financial statements and made various recommendations for improving financial accounting guidance in this area.[15] In response to perceived abuses, the FASB introduced new consolidation rules based on risks and rewards rather than ownership and voting rights.[16] The FASB has continued to adjust the financial accounting rules in response to innovations in financial instruments.[17]

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[13] For an example of abusive transactions involving the use of special purpose entities, see William C. Powers, Jr., "Report of Investigation of the Special Investigative Committee of the Board of Directors of Enron Corp." (Feb. 1, 2002), http://i.cnn.net/cnn/2002/LAW/02/02/enron.report/powers.report.pdf.

[14] Pub. L. No. 107-204 (2002).

[15] Office of the Chief Accountant, Securities and Exchange Commission: *Report and Recommendations pursuant to Section 401(c) of the Sarbanes-Oxley Act of 2002 On Arrangements with Off-Balance-Sheet Implications, Special Purpose Entities, and Transparency of Filings by Issuers* (2005). For a description of the financial accounting motivated transactions with off-balance-sheet implications related to the Enron case, see Joint Committee on Taxation, *Report of Investigation of Enron Corporation and Related Entities Regarding Federal Tax and Compensation Issues and Policy Recommendations* (JCS-3-03), February 2003, pp. 313-331.

[16] FASB Interpretation No. 46(R): Consolidation of Variable Interest Entities (revised December 2003). This guidance is now incorporated into Accounting Standards Codification ("ASC") 810 - Consolidations. Prior to the issuance of this new standard, entities were required to be consolidated only if the sponsor held the majority ownership/voting rights in the special purpose entity. Under the risks and rewards approach, the requirement to consolidate is based on whether the firm absorbs the majority of the losses or gains of the special purpose entity (renamed variable interest entity).

[17] FASB Interpretation No. 45: Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others (now ASC 460), issued in 2002, required expanded recognition and disclosure of liabilities related to guarantees by the guarantor. FASB Interpretation No. 46(R): Consolidation of Variable Interest Entities (now ASC 810), issued in 2003, made it harder to exclude debt from the balance sheet via special purpose entities. Those guidelines were further tightened in 2009 with the issuance of SFAS No. 167: Amendments to FASB Interpretation No. 46(R) (now ASC 810) and the issuance of SFAS No. 166: Accounting for Transfers of Financial Assets (now ASC 860) which changed the way financial institutions account for securitizations and special purpose entities. In addition, in October 2008, the FASB and IASB formed the Financial Crisis Advisory Group to advise the Boards about the accounting standard setting implications of the financial crisis and potential changes in the global regulatory environment.

C. Regulatory Considerations

In addition to economic and financial accounting considerations, financial institutions subject to capital adequacy requirements may issue, or hold, financial instruments designed to produce favorable results under those rules.

Under U.S. regulatory capital requirements, financial regulators generally require the institutions they supervise to maintain minimum levels of capital.[18] The capital requirements measure a financial institution's equity capital relative to the institution's risk profile, with riskier assets requiring more equity capital to be held by the institution to absorb potential losses. These requirements, intended to reduce institution failures and minimize losses to creditors, customers, and taxpayers in the event of a failure, are generally based on accords promulgated by the Basel Committee on Banking Supervision of the Bank of International Settlements (the "Basel Accords"). There have been three Basel Accords commonly referred to as Basel I[19] (adopted in 1988), Basel II[20] (announced in 2004) and Basel III[21] (final rules published in December 2010).[22]

Financial institutions may have an incentive both to issue financial instruments that qualify as regulatory capital (to help satisfy minimum requirements) and to hold financial instruments that require less capital to be held against them. As regulatory rules and standards change over time, one can expect financial institutions to develop new financial instruments and products favorable under those new rules and standards.

Trust preferred securities are an example of a financial instrument developed, and adapted over time, to achieve beneficial treatment under the regulatory capital requirements.[23] Prior to the enactment of the Dodd-Frank Wall Street Reform and Consumer Protection Act

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[18] There are multiple financial institution regulators in the United States, including the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation, the Federal Reserve Board, and the National Credit Union Administration.

[19] Basel Committee: *International Convergence of Capital Measurement and Capital Standards*, available (with updates) at http://www.bis.org/list/bcbs/sac_1/tid_21/index.htm.

[20] *Basel II: International Convergence of Capital Measurement and Capital Standards: a Revised Framework*, available (with updates) at http://www.bis.org/publ/bcbs107.htm.

[21] *Basel III: A global regulatory framework for more resilient banks and banking systems* and *Basel III: International framework for liquidity risk measurement, standards and monitoring*, available at http://www.bis.org/list/basel3/index.htm.

[22] For a description of the Basel Accords and their implementation in the United States, see Walter W. Eubanks, Congressional Research Service, *The Basel Accords: The Implementation of II and the Modification of I*, Report RL33278 (June 16, 2006); Walter W. Eubanks, Congressional Research Service, *The Status of the Basel III Capital Adequacy Accord*, Report RL41467 (October 28, 2010); Joint Committee on Taxation, *Description of Revenue Provisions Contained in the President's Fiscal Year 2012 Budget Proposal* (JCS-3-11), June 2011, pp. 141-145.

[23] For a more detailed discussion of trust preferred securities, see Joint Committee on Taxation, *Present Law and Background Relating to Tax Treatment of Business Debt* (JCX-41-11), July 11, 2011, pp. 82-84.

("Dodd-Frank"),[24] trust preferred securities meeting certain requirements and issued by bank holding companies regulated by the Federal Reserve Board (but not financial institutions supervised by other regulators) counted as the highest quality regulatory capital, defined as Tier 1 capital.[25] However, trust preferred securities issued by these institutions were designed to qualify as debt (not equity capital) for Federal tax purposes, thus giving the corporate issuer an income tax deduction for payments made with respect to the instruments. For banks other than bank holding companies, trust preferred securities did not count as Tier 1 capital.

However, Section 171(b) of Dodd-Frank generally phases out the treatment of trust preferred securities as Tier 1 capital for most large bank and thrift holding companies. Specifically, the section prohibits bank holding companies with assets in excess of $15 billion on December 31, 2009, to count trust preferred securities issued after May 19, 2010, as Tier 1 capital and phases previously issued trust preferred securities out of Tier 1 capital by January 2016. Bank holding companies with $15 billion or less in assets are not allowed to include trust preferred securities issued on or after May 19, 2010, in Tier 1 capital, but are not required to phase out trust preferred securities outstanding before that date. Federal home loan banks and certain small bank holding companies (*i.e.*, bank holding companies with less than $500 million in assets) are exempted from the limitation provision (*i.e.*, these entities may continue to count trust preferred securities as Tier 1 capital), as are trust preferred securities issued to the United States or any agency or instrumentality thereof pursuant to the Emergency Economic Stabilization Act of 2008.[26]

In addition, Dodd-Frank directs the Federal banking agencies to develop capital requirements applicable to insured depository institutions, depository institution holding companies, and nonbank financial companies supervised by the Federal Reserve Board that address the risks that the activities of such institutions impose on the market, including rules that address activities in derivative instruments, securitized products, securities borrowing and lending, and repurchase and reverse repurchase agreements.[27] Depending upon how such rules develop, financial institutions may have additional incentives or disincentives for using derivative financial instruments.

[24] Pub. L. No. 111-203.

[25] Generally, Tier 1 capital includes common stock plus noncumulative preferred stock plus minority interests in consolidated subsidiaries, less goodwill and other intangible assets.

[26] Pub. L. No. 110-343.

[27] Pub. L. No. 111-203, sec. 171(b)(7)(A) and (B).

II. U.S. INCOME TAX PRINCIPLES

Fundamental to the Federal income tax system is the determination of income subject to tax. This section outlines the basic principles of timing, character, and source. These three principles are central to the application of the income tax. A variety of factors affect their application.

A threshold issue for application of the income tax is determining to whom the tax should apply. Although it is generally the owner of the income who is subject to the tax, the Code does not provide a definition of ownership. In the absence of specific rules, courts have detailed factors relevant to determining the owner of income for Federal tax purposes. In the context of financial instruments these factors include who (1) bears the risk of loss and has the opportunity for gain; (2) has the right to receive current income or distributions; (3) may exercise any rights attending the instrument such as voting or enforcement rights; and (4) has the right to dispose of the property. Considerations of ownership may be complicated by the ability of taxpayers to structure financial arrangements that deliver some (or all) of the economics of ownership but none (or some) of the other attributes of ownership.

The manner of a taxpayer's participation in the market also may affect the timing, character, and source of income. For example, the Code taxes investors, traders, and dealers in securities and commodities and related financial instruments differently. A taxpayer's status in this regard is generally determined by both the nature and the extent of his activities. Generally, an investor is a taxpayer who seeks to profit solely from changes in the price of, and income earned on, financial products he holds, and is not engaged in a trade or business.[28] In contrast, a trader is someone in a trade or business of buying and selling assets in an effort to catch swings in the daily market and profit thereby on a short-term basis.[29] A person is a dealer in securities, for example, if such person regularly purchases securities from or sells securities to customers in the ordinary course of a trade or business, or regularly offers to enter into, assume, offset, assign, or otherwise terminate positions in securities with customers in the ordinary course of a trade or business.[30] A taxpayer may qualify for more than one status at any given time with respect to different instruments.

Some parties to a transaction may be indifferent to the timing, character, and source of income because they are either exempt from tax or are required to mark positions to market as ordinary income in any event (*e.g.*, section 475 securities dealers) or for other reasons. In such cases taxable parties may enter into transactions with the tax indifferent party to achieve a desired tax result.

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[28] *Whipple v. Commissioner*, 373 U.S. 193 (1963).

[29] See, *e.g.*, *Liang v. Commissioner*, 23 T.C. 1040, 1043 (1995).

[30] See sec. 475(c)(1) (defining a securities dealer for purposes of section 475); *Bielfeldt v. Commissioner*, 231 F.3d 1035 (7th Cir. 2000) (describing the difference between a trader and a dealer and noting that "the dealer's income is based on the service he provides in the chain of distribution of the goods he buys and resells, rather than on fluctuations in the market value of those goods, while the trader's income is based not on any service he provides but rather on, precisely fluctuations in the market value of the securities or other assets that he transacts in.").

In addition to considerations of the taxpayer's status, other activities of the taxpayer may come into play. For example, specialized rules for tax hedges, transactions entered into in the normal course of a taxpayer's trade or business primarily to manage certain risks with respect to ordinary property or obligations, can change the timing, character, and source of income.[31] As another example, financial products issued by life insurance companies, such as life insurance contracts and annuity contracts, are subject to different rules that are not described in this document.

Following is a description of some of the most relevant rules for determining timing, character, and source of income in the context of financial instruments.

[31] Sec. 1221(b)(2).

A. Timing of Income Rules

A fundamental principle of income tax is the determination of when an item of income (or expense) is required to be taken into account for income tax purposes.[32] Because of the time value of money, whereby the present value of a future tax liability is less than the value of the same tax liability in the current year and holding other factors such as tax rates constant, most taxpayers prefer to delay taking income into account. The tax rules do not, however, permit a taxpayer to choose the timing of income simply to minimize that taxpayer's tax burden. Instead, as a general matter, a taxpayer must compute taxable income under a method of accounting that "clearly reflect[s] income."[33] Within this broad requirement that a taxpayer's accounting method produce a clear reflection of the taxpayer's income, the timing rules vary based on the taxpayer's method of accounting as well as the particular item of income.

In general, for a cash basis taxpayer (*e.g.*, an individual), an amount is included in income when received.[34] For an accrual basis taxpayer (*e.g.*, a corporation), an amount generally is recognized (and included in income) the earlier of when such amount is earned by, due to, or received by the taxpayer, unless an exception permits deferral or exclusion.[35]

Regardless of a taxpayer's method of accounting (cash or accrual), some forms of income are taxed as they accrue, while the taxation of other forms of income are delayed until a later date. For example, an employee generally is taxed on wages and other compensation for services when the employee receives the wages or other compensation.[36] In contrast, an employee generally is not taxed on amounts under certain employee benefit plans until the employee withdraws the amounts.[37] However, when dealing in financial instruments, it is not always clear when the amounts exchanged, pledged, or promised upon execution of a contract should be included in the taxpayer's income (*e.g.*, upon physical receipt of the payment, when another step of the transaction occurs, or upon completion of the entire contract). One way of understanding the general approach to the timing of taxation of financial instruments is that

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[32] For purposes of brevity, this discussion addresses only the timing of income inclusion (including gains and losses from the sale, exchange or disposition of a financial instrument), not the timing of an expense allowance. Expenses, though, present similar issues of timing. See Joint Committee on Taxation, *General Explanation of the Revenue Provisions of the Deficit Reduction Act of 1984* (JCS-41-84), December 31, 1984, pp. 258-269, for a detailed discussion of when an expense may be taken into account.

[33] Sec. 446(b).

[34] Sec. 451(a).

[35] Sec. 451. For examples of deferral opportunities, see sections 453 or 455, Treas. Reg. section 1.451-5, or Rev. Proc. 2004-34, 2004-1 C.B. 991.

[36] See also section 83 which provides special rules for property, including stock and options, transferred in connection with the performance of services.

[37] For example, amounts withdrawn from pension accounts during retirement (and included in income when withdrawn) often relate to services that the employee performed at an earlier time. See, *e.g.*, sections 401, 402, 403.

income from instruments with fixed returns (such as bonds) is taxed annually, while income from instruments with contingent returns (such as stock) is taxed on a wait-and-see (open transaction) basis.[38]

Income is recognized for most financial instruments on a wait-and-see basis whereby the execution of the contract has no immediate income tax consequences. Instead, the taxpayer includes amounts in income when they are "realized." For example, although a taxpayer has income in an economic sense when the price of a share of stock that the taxpayer owns increases, the taxpayer does not have taxable income from that price appreciation until there is a realization event in respect of the stock – that is, until the taxpayer sells the stock.[39] As is described in more detail in section III.A. below, income from an option or a forward or futures contract is also generally taxed on a realization basis. As with stock, the returns on these derivative financial instruments are contingent. However, if the option or forward or futures contract is subject to section 1256 (discussed in section IV.E.1. below), the income may be included at an earlier time.

As with most areas of the Federal tax code, there are exceptions to the general realization rules. One such exception relates to interest from a bond. For example, just as an individual is taxed on interest income that the individual receives from holding a bond (an instrument that provides fixed returns), taxpayers are taxed under the original issue discount ("OID") rules on interest that is deemed to accrue each year on a bond that pays no interest (a zero-coupon bond) until the maturity date.[40]

Another such exception requires gains or losses from financial instruments to be recognized in advance of when the contract would otherwise dictate (*i.e.*, when the amounts are realized). Mark-to-market is the most common tax accounting method requiring early recognition.[41] This departure from the normal realization-based tax accounting principles requires certain types of taxpayers (*e.g.*, dealers) with certain types of contracts (*e.g.*, regulated futures contracts or foreign currency contracts) to recognize the gain or loss with respect to those unsettled financial contracts as if the transactions were completed on the last day of the tax year, if not more frequently.

Similarly, in certain instances, amounts are required to be included in income upon execution of the contract. For example, shares of stock traded in an OTC market or on an exchange are considered purchased or sold on the date that the taxpayer enters into a binding contract to buy or sell the stock ("trade date") even if the stock is transferred on another date

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[38] See, Alvin C. Warren, Jr., "Financial Contract Innovation and Income Tax Policy," *Harvard Law Review,* vol. 107, p. 465. Warren argues that the different taxation of fixed returns and contingent returns is unworkable when financial instruments offer both kinds of returns. For a discussion of this difficulty, see section III.B. below.

[39] For the rule codifying the realization principle, see section 1001.

[40] Discussed in more detail in section IV.B.1 below. See also sections 1271-1275.

[41] See secs. 475 and 1256. These mark-to-market rules supersede the fixed-versus-contingent return distinction.

("settlement date"). Accordingly, revenue is recognized and amounts are included in the taxpayer's income on the trade date.[42] Conversely, there are other instances where gains or losses from financial instruments are allowed to be deferred even though the underlying contract is complete.[43] More detailed discussions of the effect of timing on financial instruments are included in sections III and IV below.

[42] For both cash and accrual taxpayers, section 453(k) provides that the recognition of gain or loss on an exchange takes place on the trade date. See also Rev. Rul. 93-84, 1993-2 C.B. 225.

[43] See, *e.g.*, secs. 1043 (conflict of interest) and 1044 (qualified small businesses).

B. Character of Income Rules

In general

The characterization of income, gain, or loss as ordinary or capital is another significant income tax principle in calculating income tax liability. While a dollar of income is just that, a dollar, whether it is from, for example, the performance of services (*e.g.*, wages), the trading of a financial instrument (*e.g.*, stock), or the sale of an asset (*e.g.*, depreciable property) affects the rate at which the income is taxed and the amount of losses that may be taken as a current deduction. The tax rules distinguish between ordinary and capital income. Thus, the characterization of the gains or losses derived from the sale, exchange, or disposition of a financial instrument can affect the amount of a taxpayer's tax liability.[44]

In general, gains considered ordinary in nature are taxed at the taxpayer's marginal tax rate for the year such amounts are included in income. Conversely, the amount of ordinary losses in excess of ordinary gains that can be taken into account by a taxpayer in any given year may be limited due to a taxpayer's filing status (*e.g.*, individual or corporation).[45] Capital gains, on the other hand, may be taxed at a lower rate for certain taxpayers.[46] Similar to ordinary losses, the deduction for capital losses in excess of capital gains may be limited in any given year.[47] While a dollar of income is a dollar of income regardless of the origin, there is a distinction between capital and ordinary income for tax purposes.[48]

Capital gain treatment

Capital gains and losses result when a capital asset is sold, exchanged, or disposed. In general, a capital asset is defined as property held by a taxpayer other than: (1) inventory; (2) property subject to the allowance for depreciation, including real property;[49] (3) a copyright, a

[44] The computation of taxpayer's gain or loss from the sale of a financial instrument is not discussed in detail. As with most other sales of property, section 1001 provides that gain or loss from the sale of most financial instruments is measured by the difference between the seller's basis and the amount of money plus the fair market value of property (if any) received. The seller's basis usually consists of the amount paid for the stock (adjusted to take into account any distributions of capital, stock dividends, etc.) plus capitalized costs of acquisition (primarily brokers' commissions).

[45] See, for example, section 469 regarding passive activity loss limitations for an individual. But, also see section 165 for treatment losses of a corporation.

[46] See section 1(h) for capital gains tax rates for individuals.

[47] See section 1211 for capital loss limitations.

[48] This distinction between capital and ordinary income might be justified in promoting certain nontax policy goals, such as saving or investment.

[49] However, section 1231 provides that to the extent gains from the sale, exchange, or involuntary conversion of property used in the taxpayer's trade or business exceeds losses from similar property, such gains and losses shall be treated as long-term capital gains and long-term capital losses. Section 1231 specifically excludes inventory and property held primarily for sale in the ordinary course from the definition of property used in the taxpayer's trade or business for purposes of this section.

literary, musical, or artistic composition, a letter or memorandum, or similar property held by the taxpayer;[50] (4) accounts or notes receivables acquired in the ordinary course of business (*e.g.*, for providing services or selling property); (5) a publication of the U.S. government other than that which is held for sale by the U.S. government; (6) any commodities derivative financial instrument held by a commodities dealer unless clearly identified as a capital asset; (7) any hedging transaction clearly identified as such; or (8) supplies of a type regularly consumed in the taxpayer's ordinary course of business.[51] Further, gains or losses attributable to the cancellation, lapse, expiration, or other termination of a right or obligation with respect to a capital asset would be characterized as capital in nature.[52]

Short-term versus long-term

Once it is determined that gain or loss from the sale of property is capital gain or loss, it is necessary to determine whether such gain or loss is short- or long-term determined in reference to the holding period.[53] In general, short-term capital gains and losses are those related to the sale, exchange, or disposition of a capital asset held by the taxpayer for not more than one year.[54] Conversely, long-term capital gains and losses are those derived from the sale, exchange, or disposition of a capital asset held by the taxpayer for more than one year.[55] However, there are exceptions to the general rules regarding classification of capital gains and losses as short or long-term.[56]

The classification of gains and losses as short- or long-term may result in more favorable tax treatment since short and long-term gains must be netted with their respective short- or long-term losses for any given tax year.[57] Further, the tax rates for capital gains may be lower than the tax rates on ordinary income. For example, the tax rate for long-term capital gains derived

[50] This includes a letter, memorandum, or similar property held by a taxpayer for whom such property was prepared or produced.

[51] Sec. 1221(a).

[52] Sec. 1234A. Specifically excluded from the above definition of right or obligation are securities futures contracts defined in 1234B. Further, section 1256 contracts are excluded from the capital treatment afforded in section 1234A.

[53] Sec. 1223(a) and Treas. Reg. sec. 1.1223-1(a). See also section 1234A.

[54] Sec. 1222(1) and (2).

[55] Sec. 1222(3) and (4).

[56] See sections 475 (mark-to-market), 1233 (discussed in section C of part IV below) and 1256 (discussed in section E of part IV below).

[57] See section 1(h).

from the sale by an individual of a financial instrument could be 10 to 20 percentage points less than a taxpayer's individual tax rate on ordinary income.[58]

Capital loss limitation

To the extent capital losses exceed capital gains in any given tax year, a taxpayer's entity choice may result in limiting the amount of losses that can be claimed by the taxpayer. In general, corporations may only claim capital losses to the extent of such gains.[59] All other taxpayers may claim capital losses up to $3,000 in excess of capital gains for such taxable year.[60]

Ordinary income

Amounts not otherwise determined to be capital in nature are generally included as ordinary income and taxed at the applicable rates. This includes amounts earned by dealers, interest, dividends, as well as amounts earned from property held by a taxpayer that is specifically excluded from the definition of a capital asset. While dividends are considered ordinary income, qualifying dividends are taxed at capital gains rates for the 2003-2012 tax years.[61] Further, as with the rules regarding capital treatment, there are exceptions to the general rules that dictate ordinary income treatment.[62]

[58] See section 1(h)(1) for graduated capital gains rate information.

[59] Sec. 1211(a). A corporation with net capital losses for any taxable year may be eligible to carry such losses back three years and forward 10 years. See section 1212(a).

[60] Sec. 1211(b). Taxpayers other than a corporation may carryover their net capital losses to future years until the loss is used. The character of the loss (as either short or long-term) also is retained. See section 1212(b).

[61] See section 1(h)(11).

[62] See, *e.g.*, section 1221 (hedging transactions).

C. Source of Income Rules

When a resident of one country derives income connected with activities or investment in another country, the income could be subject to tax in both countries. U.S. law and other countries' tax laws include provisions intended to relieve this double taxation. These provisions include rules for determining whether an item of income has a domestic or a foreign source. In the United States these source-of-income rules affect U.S. and foreign taxpayers differently. The U.S. source rules matter for foreign taxpayers because the United States generally imposes tax only on the U.S.-source income of foreign taxpayers. The U.S. source rules matter for U.S. taxpayers because, although U.S. taxpayers are subject to U.S. tax on both U.S.-source and foreign-source income, the foreign tax credit, which mitigates double taxation of a U.S. taxpayer's cross-border income by giving a credit against U.S. tax for foreign tax imposed on that income, is allowed to reduce only U.S. tax on foreign-source income. Consequently, both U.S. and foreign taxpayers generally prefer that income is treated as foreign source rather than as U.S. source.

The U.S. tax rules use different factors for determining the source of different categories of income, including the residence of the payor of the income, the residence of the recipient of the income, the location or place of use of the property that produces the income, and the location of the activities that produce the income. For example, interest and dividend income generally is sourced based on the residence of the taxpayer that pays the interest or dividend; rental income is sourced based on the location of the property producing the income; royalties for the use of patents and other intellectual property are sourced based on the place of use of the property; and compensation for personal services is sourced based on where the services are performed.[63] Subject to a number of exceptions, income from the sale of personal property is sourced based on the residence of the seller of the property.[64] There are a number of special source rules, including, for example, for transportation income, space and ocean activities income, and international communications income.[65]

The Code does not provide source rules for all types of income. In the absence of a source rule for a particular kind of income, courts have determined the source of that income by applying the rule for the type of income to which the disputed income is most closely analogous.[66]

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[63] Secs. 861(a)(1)-(4), 862(a)(1)-(4).

[64] Sec. 865(a). For exceptions from the general residence-based rule, see, for example, sections 861(a)(6), 862(a)(6), 863(b)(2), and 865(b) through (e), (for inventory property income, depreciable personal property income, contingent income from intangibles, and sales through offices or fixed places of business).

[65] Sec. 863(c)(2) (50-50 U.S.-foreign source rule for income from transportation beginning or ending in the United States); sec. 863(d)(1) (space or ocean activity income sourced based on residence of the recipient of the income); sec. 863(e)(1) (50-50 rule for international communications income of U.S. persons and general foreign-source rule for the same income of foreign persons).

[66] *Hunt v. Commissioner*, 90 T.C. 1289 (1988).

Disputes about the source of particular items of income arise regularly. Financial instruments may contribute to source disputes because their flexibility permits taxpayers to produce favorable source results by holding one instrument rather than another instrument with the same economic characteristics. Section IV.D below describes examples of source questions and their resolution (or lack of resolution).

III. INCOME TAX AND ACCOUNTING RULES AND ECONOMIC ANALYSIS RELATED TO FIVE FUNDAMENTAL FINANCIAL INSTRUMENTS

A. Income Tax Rules

1. Equity

In general

Stock is an instrument representing an equity or ownership interest in a corporation. In its purest form, stock is risk capital entirely subject to the fortunes of the corporate venture. Stock represents the capital of the corporation that is subject to the greatest risk (compared to debt capital). The holder of stock may receive a share of the corporation's profits in the form of dividends. Appreciation or depreciation in value of the corporation's business is reflected in the price of the stock. Stock may be acquired directly upon issuance by the corporation of the stock or in the market from another holder of the stock. Federal securities laws impose registration and other requirements on publicly traded stock. Applicable Federal and State laws permit multiple classes of corporate stock with differing rights.

A partnership interest represents the partner's equity or ownership interest in capital and profits of the partnership. Unlike a corporation, a partnership is not treated as separate taxable entity, but rather, is treated as a passthrough entity for Federal tax purposes.[67] A publicly traded partnership generally is treated as a corporation for Federal tax purposes, however.[68]

Because a partnership is a passthrough entity, it is not subject to entity-level tax. Rather, income earned by a partnership, whether distributed or not, is taxed to the partners, and distributions generally are tax-free to partners. Partnership interests may be acquired directly upon issuance by the partnership or from another partner. State laws provide for general partnerships, in which partners do not have limited liability for obligations of the partnership, and limited partnerships, in which limited partners have only limited liability for obligations of the partnership. State laws also provide for limited liability companies ("LLCs"), whose members typically have limited liability. LLCs generally are treated as partnerships for Federal tax purposes.[69]

Timing

Realization and recognition

The realization requirement generally applies throughout the Federal income tax law. The realization requirement provides that changes in the value of property are generally ignored

[67] Sec. 701.

[68] Sec. 7704.

[69] An LLC is generally treated as a partnership for Federal tax purposes unless it elects to be treated as a corporation; and a single-member LLC may be disregarded as a separate entity. Treas. Reg. sec. 301.7701-3.

for Federal income tax purposes until the occurrence of a taxable event such as sale or exchange of the property. Upon the occurrence of the taxable event, gain or loss with respect to the property is considered to have been realized. A sibling concept is that of recognition. Gain or loss generally is considered to be recognized, and is taken into account for Federal income tax purposes, when it is realized, unless a specific nonrecognition rule applies that defers or permanently excludes or disallows the gain or loss.[70]

Timing of gain and loss from stock

If an instrument is treated as stock for Federal income tax purposes, gain or loss with respect to the stock is recognized at the time of a taxable sale or exchange in accordance with the holder's method of accounting. Whether an exchange is a taxable event depends in part on the type of entity or person disposing of the stock, and the nature of the transaction.[71]

In otherwise taxable transactions, the wash sale rule defers the recognition of losses in situations involving sales and reacquisitions of stock.[72] More specifically, the wash sale rule disallows losses from the disposition of stock or securities if substantially identical stock or securities (or an option or contract to acquire such property) are acquired by the taxpayer during the period beginning 30 days before the date of sale and ending 30 days after the date of sale. Commodity futures are not treated as stock or securities for purposes of this rule. The basis of the substantially identical stock or securities is adjusted to take account of the disallowed loss. Similar rules apply to disallow any loss realized on the closing of a short sale of stock or securities if substantially identical stock or securities are sold (or a short sale, option or contract to sell is entered into) during the applicable period before and after the closing of the short sale.

Mark-to-market timing rules apply to dealers, and electively to traders, in securities. In the case of a dealer in securities, including stock, any security that is not inventory and that is held at year end is treated as if it were sold at year end at its fair market value.[73] An election for traders in securities provides that electing taxpayers recognize gain or loss on securities held in that connection as if the securities were sold at year end for fair market value.[74]

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[70] For a detailed analysis of the concepts of realization and recognition, see, for example, Daniel N. Shaviro, "An Efficiency Analysis of Realization and Recognition Rules Under the Federal Income Tax," *Tax Law Review,* vol. 48, p.1, 1992.

[71] For example, if the person disposing of the stock is a tax-exempt organization, gain or loss on the sale or exchange of stock is not recognized so long as the unrelated business income tax rules do not apply in the situation (secs. 501, 511-515). As another example, nonrecognition rules may apply when stock is exchanged in a transaction constituting a tax-free corporate reorganization (sec. 368) or in another type of corporate transaction to which nonrecognition is accorded such as in a contribution of property by persons in control or in a spinoff (secs. 351, 355).

[72] Sec. 1091.

[73] Sec. 475.

[74] Sec. 475(f).

Timing of dividends from stock

A dividend is generally includable in income when received, without regard to the method of accounting of the recipient.[75] No distinction is made between cash method and accrual method taxpayers for this purpose.[76]

Timing of gain or loss from sale or exchange of partnership interests

A partner that sells or exchanges its partnership interest recognizes gain or loss at the time determined under the partner's method of tax accounting. Thus, a partner who is an individual using the cash method of accounting generally takes account of gain or loss on receipt of the consideration. An accrual method partner (such as a corporate partner) takes account of gain or loss from sale or exchange of a partnership interest when received or accrued.

Timing of income or loss from partnership interests

A partner takes into account on its tax return its distributive share of separately stated partnership items and of the partnership's nonseparately stated taxable income or loss. In computing the taxable income of a partner, the inclusions are based on the income, gain, loss, deduction or credit of the partnership for the taxable year of the partnership ending within or with the taxable year of the partner.[77]

Character

Character of gain and loss from stock

Gain or loss recognized on the sale or exchange of stock held as a capital asset (*e.g.*, for investment) is generally capital gain or loss.[78]

Net capital gain of an individual is generally taxed at rates lower than those applicable to ordinary income. Net capital gain is the excess of the net long-term capital gain for the taxable year over the net short-term capital loss for the year. An individual holder of stock treats gain or loss as long-term, rather than short-term, if the stock is held for more than one year. Individual taxpayers may deduct capital losses against up to $3,000 of ordinary income in each year. Any remaining unused capital losses may be carried forward indefinitely to another taxable year.[79]

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[75] Treas. Reg. Sec. 1.301-(1)(b). In the case of amounts treated as corporate distributions under section 305, however, specific timing rules apply. Sec. 305(c).

[76] Dividends on stock (unlike interest on debt) are not deductible by the corporation paying the dividend, so the issue of matching the timing of the deduction of the payor and the income inclusion of the recipient generally does not arise for dividends.

[77] Sec. 706.

[78] Sec. 1221.

[79] Secs. 1, 1211 and 1222.

A dealer in securities, including stock, however, must compute its income using the mark-to-market method of accounting.[80] Gain or loss taken into account under these provisions is generally treated as ordinary gain or loss.

Under the mark-to-market rules for dealers in securities, any security that is inventory must be included in inventory at its fair market value, and for any security that is not inventory and that is held at year end, gain or loss is recognized as if it were sold for its fair market value. There is an exception to mark-to-market treatment for any security identified as held for investment or not held for sale to customers (or a hedge of such a security). For this purpose, a dealer in securities is a person who (1) regularly purchases securities from or sells securities to customers in the ordinary course of a trade or business, or (2) regularly offers to enter into, assume, offset, assign or otherwise terminate positions in securities with customers in the ordinary course of a trade or business. For this purpose, a security is any stock in a corporation, any partnership or beneficial ownership interest in a widely held or publicly traded partnership or trust, any note, bond, debenture, or other evidence of indebtedness, an interest rate, currency, or equity notional principal contract, any evidence of an interest in, or a derivative financial instrument of any security described above, and certain positions identified as hedges of any of the above.[81]

Character of dividends from stock

Dividends are treated as ordinary income.[82]

Qualified dividends received by individuals are taxed at the same rates that apply to net capital gain, however, for taxable years beginning before 2013. Thus, for taxable years beginning before 2013, an individual's qualified dividend income is taxed at rates of zero and 15 percent. The zero-percent rate applies to qualified dividend income that otherwise would be taxed at a 10- or 15-percent rate (under the ordinary income rates applicable to individuals) if the special rates did not apply. Qualified dividend income generally includes dividends received from a domestic corporation.[83]

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[80] Sec. 475.

[81] Sec. 475(c).

[82] Under the rules of subchapter C of the Code, a dividend is a distribution from the earnings and profits of a corporation. Corporate distributions that exceed corporate earnings and profits are treated first as return of capital to the extent of the shareholder's basis, and then as capital gain to the extent the distribution exceeds basis. Secs. 301(c) and 316.

[83] Qualified dividend income also includes dividends received by an individual from a qualified foreign corporation, which includes a foreign corporation that is eligible for the benefits of a comprehensive income tax treaty with the United States that the Treasury Department determines to be satisfactory and that includes an exchange of information program. In addition, a foreign corporation is treated as a qualified foreign corporation for any dividend it pays with respect to stock that is readily tradable on an established securities market in the United States.

A corporate taxpayer may partially or fully deduct dividends received from a domestic corporation,[84] effectively reducing the rate of tax on the dividend income. The percentage of the allowable dividends received deduction depends on the percentage of the stock of the distributing corporation that the recipient corporation owns. Generally, the percentage is 100 percent for dividends received from a member of the same affiliated group (which generally requires ownership of at least 80 percent of the total voting power and total value of the stock of the corporation); the deduction percentage is 70 percent if the ownership percentage is less than 20 percent and the deduction percentage is 80 percent otherwise.[85]

Character of gain or loss from sale or exchange of partnership interests

Gain or loss from the sale or exchange of a partnership interest is generally capital gain or loss.[86] However, the amount of money and the fair market value of property received in the exchange that represent the partner's share of certain ordinary income-producing assets of the partnership give rise to ordinary income rather than capital gain.[87]

Character of income or loss from partnership interests

The character of partnership items passes through to the partners, as if the items of income, gain, or loss were realized directly by the partners.[88] Thus, for example, long-term capital gain of the partnership is treated as long-term capital gain in the hands of the partners.

A partner holding a partnership interest includes in income its distributive share (whether or not actually distributed) of partnership items of income and gain, including capital gain eligible for capital gain tax rates. A partner's basis in the partnership interest is increased by any amount of gain thus included and is decreased by losses. These basis adjustments prevent double taxation of partnership income to the partner, preserving the partnership's tax status as a passthrough entity. Money distributed to the partner by the partnership is taxed to the extent the amount exceeds the partner's basis in the partnership interest.

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[84] Sec. 243 *et seq*. Conceptually, dividends received by a corporation are retained in corporate solution; these amounts are taxed when distributed to noncorporate shareholders so the corporate-level tax is not paid repeatedly on the same income item.

[85] Secs. 243-246A provide rules and impose limitations with respect to the dividends received deduction. Additional limitations on the dividends received deduction apply under other provisions; for example, see the insurance company proration rules of secs. 805(a)(4) and 832(b)(5)(B)-(E).

[86] Sec. 741.

[87] Sec. 751(a). These ordinary income-producing assets are unrealized receivables of the partnership or inventory items of the partnership.

[88] Sec. 702.

Source

Source of gain and loss from stock

Capital gain or loss from the sale or exchange of stock is generally sourced based on the residence of the taxpayer.[89] Thus, U.S. persons typically recognize U.S.-source gain or loss, and non-U.S. persons typically have foreign-source gain or loss. Exceptions to this residence-based source rule apply in the case of sales of stock of foreign affiliates and other foreign corporations; gain from such sales is sourced outside the United States.[90]

Source of dividends from stock

In general, dividend income is sourced based on the residence of the taxpayer that pays the dividend. Dividends from domestic corporations are generally U.S. source.[91] A pro rata portion of dividends from a foreign corporation are U.S. source, unless less than 25 percent of its gross income for the preceding three years is (or is treated as) effectively connected with the conduct of a trade or business within the United States and thus subject to U.S. income tax.[92]

Source of gain or loss from sale or exchange of partnership interests

In determining the source of gain or loss from the sale or exchange of a partnership interest, IRS administrative guidance has taken the approach of looking through the partnership interest to the partnership fixed place of business or assets. The IRS has concluded that a foreign partner's income from the sale of an interest in a partnership engaged in a U.S. business through a fixed place of business is U.S. source and that a U.S. resident partner's gain from the sale of an interest in a foreign partnership the sole activity of which is building and leasing an asset abroad is foreign source.[93]

Source of income or loss from a partnership interest

There is no single source rule for income paid or received by a partnership or by a partner of the partnership. Consequently, the source of partnership-related income depends on the nature of the income.

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[89] See sec. 865(a).

[90] Sec. 865(f) and (h).

[91] Sec. 861(a)(2)(A). For this purpose, a corporation electing under section 936 is not treated as a domestic corporation.

[92] Sec. 861(a)(2)(B). Additional special source rules apply to dividends paid by foreign corporations. See, for example, section 861(a)(1)(C) and (D).

[93] Priv. Ltr. Rul. 9142032 (July 23, 1991); Rev. Rul. 91-32, 1991-1 C.B. 107. See secs. 865(e) and (i) and sec. 875(1).

For example, there are specific source rules for a partnership's income from the sale of personal property, for interest paid by a foreign partnership, and for income from services performed by a partnership. Although the residence of the partnership (as opposed to the residence of the partners) may determine the source of partnership income that is of a type sourced by reference to the residence of the recipient of the income, the source of income from a partnership's sale of personal property is generally determined by applying the applicable section 865 source rule at the partner level.[94] Interest paid by a foreign partnership is U.S.-source income only if the interest is paid by a U.S. trade or business conducted by the partnership or is allocable to income that is effectively connected with the conduct of a U.S. trade or business.[95] A partnership's compensation for services is U.S. source to the extent the compensation is attributable to labor or personal services performed in the United States, as determined on the basis that most correctly reflects the proper source of the income under the facts and circumstances, typically apportionment on a time basis.[96]

2. Debt

In general

In its purest form, debt is an unqualified promise to pay a sum certain on a specified date with fixed interest. The holder of debt is a lender and is normally entitled to repayment of the amount loaned. The debt holder receives compensation for the use of money in the form of interest. Appreciation or depreciation in the value of the debt arises from changes in prevailing interest rates and in the creditworthiness of the borrower.

A bond is an instrument representing a debt obligation. Corporate bonds represent the debt of a corporation. Bonds may be acquired directly from the issuing corporation upon issuance of the bond or in the market from another holder of the bond. Federal securities laws impose registration and other requirements on publicly traded bonds. Applicable Federal and State laws permit multiple classes of corporate debt with differing rights.

Timing

Gain and loss from bonds

If an instrument is treated as corporate debt for Federal income tax purposes, such as a bond, gain or loss with respect to the bond is recognized at the time of a taxable sale or exchange in accordance with the taxpayer's method of tax accounting. Issuance and repayment of the debt are generally not treated as taxable events. As is the case with corporate stock,[97] whether an

[94] Sec. 865(i).

[95] Sec. 861(a)(1)(B).

[96] Treas. Reg. sec. 1.861-4(b)(1)(i). This rule also applies to services performed by other entities such as corporations.

[97] The person disposing of the bond may be a tax-exempt organization or a foreign person not subject to U.S. tax on the transaction. Under nonrecognition rules permitting the tax-free exchange of securities for securities

exchange is a taxable event depends in part on the type of entity or person disposing of the bond, and the nature of the transaction.

Interest on bonds

Interest income is generally includable when received (in the case of taxpayers using the cash method of accounting, which includes almost all individuals) or when accrued (in the case of accrual method taxpayers). Interest on tax-exempt bonds, however, is not includable in income.[98]

The holder of a debt instrument with OID generally accrues OID over the life of the obligation.[99] This OID timing rule applies even though the includable amount of interest may not be received until the subsequent maturity of the instrument. The amount of OID with respect to a debt instrument is the excess of the stated redemption price at maturity over the issue price of the debt instrument. The amount of OID with respect to a debt instrument is allocated over the life of the instrument through a series of adjustments to the issue price for each accrual period.

Statutory limitations on the deductibility of interest expense apply in some cases in which an immediate deduction would produce a mismatching of income and expense. If the full interest deduction is not permitted on a current basis, the deduction may be disallowed, deferred until a later time, or required to be capitalized into the basis of related property. For example, section 263A generally denies a current deduction for costs incurred in manufacturing or constructing tangible property, requiring that such costs be capitalized. Section 263(g) requires taxpayers to capitalize certain otherwise deductible expenditures, including interest expense, that are allocable to personal property that is part of a straddle.[100]

in a corporate reorganization (sec. 368), a bond with a maturity of at least five years is generally considered a security for this purpose.

[98] Sec. 103. The outstanding market value of municipal securities as of the end of 2010 is $2.9 trillion, as shown in Table A.1 in the appendix to this document.

[99] Sec. 1272.

[100] These limitations are discussed in more detail in Joint Committee on Taxation, *Present Law and Background Relating to Tax Treatment of Business Debt* (JCX-41-11), July 11, 2011.

Character

Character of gain and loss from bonds

Gain or loss recognized on the sale or exchange of a bond held as a capital asset (*e.g.*, for investment) is generally capital gain or loss.[101]

Character of interest on bonds

Interest is treated as ordinary income.

Source

Source of gain and loss on bonds

Gain or loss from the sale or exchange of a debt instrument is generally sourced based on the residence of the taxpayer.[102] Thus, U.S. persons typically recognize U.S.-source gain or loss, and non-U.S. persons typically have foreign-source gain or loss, on the sale or exchange of a debt instrument.

Source of interest on bonds

In general, interest income is sourced based on the residence of the person that pays the interest. Interest on interest-bearing obligations (such as bonds) of domestic corporations is sourced in the United States.[103] Interest on deposits with a foreign commercial banking branch of domestic corporation, however, is treated as foreign-sourced.[104]

3. Options

In general

An option is a contract between two parties that gives the holder of the option the right, but not the obligation, to buy from, or sell to, the counterparty a specified amount of property at a fixed price (the "strike price") at a specified time. The party with the choice to buy (or sell) the underlying property is commonly referred to as the "holder" or "buyer" of the option. The party with the matching obligation to sell (or buy) the underlying property is commonly referred to as the "writer," "seller," or "issuer" of the option. A contract giving the holder the option to buy something is referred to as a call option (or a "call").[105] A contract giving the holder the option

[101] Sec. 1221.

[102] See sec. 865(a).

[103] Sec. 861(a)(1). This rule was amended in 2010 to strike the 80-percent foreign business test. See Pub. L. No. 111-226, sec. 217.

[104] Sec. 861(a)(1)(A).

[105] A "warrant" is a call option that is written by a corporation on its own stock.

to sell something is referred to as a put option (or a "put"). An option can specify a particular date for performance (a "European-style option") or can allow for performance at any time during a specified period of time (an "American-style option").

The option buyer pays the writer a premium for the option. Traditionally, most options are structured with prepaid premiums. That is, the holder pays the option premium at the inception of the contract.

The amount of the premium varies with the strike price, the term of the option, the volatility of trading prices for the underlying asset, cash flow generated by the underlying asset (if any), and interest rates. Very generally, in the case of a call option to buy stock, the premium increases as the strike price decreases, the term of the option is set longer, or the trading price of the underlying stock becomes more volatile. Options may be physically settled, meaning the underlying asset is delivered at settlement, or net cash settled, meaning that one party pays cash at settlement equal to the difference between the strike price of the option and the value of the underlying asset.

A call option can represent the purchaser's expectation that the value of the underlying asset will increase (and the writer's expectation that the price of the underlying asset will fall or, alternatively, that it will not rise to the level of the strike price).

Example 1.–European-style, net cash-settled call option. Party A purchases a European-style, net cash-settled call option on a single share of XYZ stock from Party B (the issuer) on December 1, 2011, when XYZ is trading at $100 per share. To purchase the option, Party A pays a nonrefundable premium to Party B. The option requires Party B to pay Party A the amount (if any) by which the market price of XYZ on the settlement date exceeds $110. Suppose the value of XYZ stock on the settlement date is $150. Party B pays Party A $40. Conversely, if the value of XYZ is $105 on the settlement date, the option expires unexercised.

A put option can represent the purchaser's expectation that the price of the underlying asset will fall (and the writer's expectation that the price of the underlying asset will increase or, alternatively, that it will not fall to the level of the strike price).

Example 2.–European-style, physically-settled put option. Party A purchases a physically settled, European-style put option on a single share of XYZ stock from Party B (the issuer) on December 1, 2011, when XYZ stock is trading at $100 per share. The option gives Party A the right (but not the obligation) to sell one share of XYZ stock to Party B on December 31, 2012, for $100.[106] If the price of a share of XYZ is below $100 on the settlement date, Party A exercises the option and requires Party B to buy the XYZ share for $100. However, if the price of XYZ stock increases, Party A will not exercise the option because he could obtain a better price selling the stock in the market. The option therefore expires and Party B profits to the extent of the premium Party A paid. For example, assume that on the settlement date the price of one share of XYZ is $90. Party A exercises his option and requires Party B to purchase

[106] This option is referred to as an "at-the-money" put option; that is, one where the strike price equals the market price for XYZ stock at inception.

a share for $100. Since Party A can acquire a share in the market for $90 and immediately sell it to Party B for $100, Party A profits by $10 (less the amount of option premium that Party A paid to Party B).[107]

Timing

In general, gain or loss from options on stock is recognized on an open transaction basis. The option holder capitalizes the cost of the option premium, and the option writer does not immediately include it in income.[108] Instead, the amount of gain or loss is determined at the time of a subsequent recognition event, that is, when the option is exercised or sold or when it expires unexercised.[109]

For instance, the purchaser of a cash-settled call option determines gain or loss at the time the option is exercised by subtracting the option premium from the amount (if any) received from the writer of the option. In contrast, if the same option were physically settled, recognition of gain or loss for the holder is deferred until the acquired underlying asset is itself sold or exchanged. The premium paid to acquire the option is added to the basis of the acquired underlying asset (along with the strike price) at the time of exercise.[110] For the writer of a call option, the premium is taken into income at the time the option is exercised or expires.

Special rules apply to options that qualify as section 1256 contracts.[111] These include options on broad-based equity indices (such as an option on the S&P 500 index). In general,

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[107] Party A could take a similar position by "shorting" XYZ stock. Party A would establish a short sale by borrowing one share from a broker and selling it into the market. To close his short position, Party A delivers a share of the stock to the broker (which may be worth more or less than the amount Party A received when Party A sold the share short). If the price of the stock falls, Party A can close the short sale by purchasing stock in the market for less than the price at which it previously sold the borrowed shares. If the stock price rises, Party A spends more to close the short position than it obtained by selling the stock short. In a "naked" short sale, the investor sells shares short without first having borrowed them. In that case, the short seller must go into the market and acquire shares to deliver at settlement (generally three days following the trade date). Failure to obtain replacement shares can result in a "failure to deliver." SEC Rule 204 of Regulation SHO under the Securities and Exchange Act of 1934 requires broker-dealers to promptly borrow or purchase securities to deliver on a short sale. The down side risk of a put option is limited to the premium paid. In contrast, a short position has a potentially unlimited down side risk because there is no limit to how much the price of shorted stock might increase. For this reason, a put option may be a more attractive financial instrument for some investors.

[108] See Rev. Rul. 78-182, 1978-1 C.B. 265.

[109] *Ibid*.

[110] *Ibid*.

[111] A "section 1256 contract" is any (1) regulated futures contract, (2) foreign currency contract, (3) nonequity option, (4) dealer equity option, and (5) dealer securities futures contract. Sec. 1256(b)(1). The term does not include (1) any securities futures contract or option on such a contract unless such contract or option is a dealer securities futures contract, or (2) any interest rate swap, currency swap, basis swap, interest rate cap, interest rate floor, commodity swap, equity swap, equity index swap, credit default swap, or similar agreement. Sec. 1256(b)(2). The special rules for section 1256 contracts are discussed in greater detail in section IV.E.1. below.

section 1256 requires taxpayers to treat each section 1256 contract as if it were sold (and repurchased) for its fair market value on the last day of the year (*i.e.*, "marked to market"). Any gain or loss with respect to a section 1256 contract that is subject to the mark-to-market rule is treated as short-term capital gain or loss to the extent of 40 percent of the gain or loss, and long-term capital gain or loss to the extent of the remaining 60 percent of the gain or loss (the "60/40 rule").

Character

Gain or loss attributable to the sale or exchange of an option, or loss attributable to failure to exercise an option by the purchaser of an option, is considered to have the same character as the property to which the option relates in the hands of the option purchaser (or would have if acquired by the purchaser).[112] Thus, in the case of a purchaser of an option on publicly traded stock as an investment, gain or loss is capital. Different results are obtained if the purchaser is a dealer in securities, a taxpayer uses the option as a hedging contract, or a corporation purchases an option on its own stock. In the case of an option writer, gain or loss from delivery is typically capital (unless the option is granted in the ordinary course of the taxpayer's business). That gain or loss may be affected by the straddle rules of section 1092.[113]

For the writer of an option, gain or loss from the termination of the option (other than through delivery of the underlying asset), and any gain on a lapse of the option typically is treated as short-term capital gain or loss, regardless of the term of the contract.[114]

Source

The Code does not provide rules for the source of income from trading in options (including, for example, income from the lapse of an option or gain or loss from the sale of an option). Instead, as part of a broad revision to the source rules in 1986, Congress directed the Secretary of the Treasury to prescribe necessary or appropriate regulations applying the source rules for personal property sales to income derived from trading in futures contracts, forward contracts, options contracts, and other instruments.[115] Treasury has not yet issued such regulations. In the absence of rules addressing the source of income from trading in options, the source of this income is generally determined by analogy to existing source rules for income from sales of personal property. Under section 865, income from the sale of personal property is generally sourced based on the residence of the taxpayer, but there are many exceptions to that general rule, including for sales of inventory property and for sales attributable to a U.S. or foreign office or other fixed place of business.

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[112] Sec. 1234.

[113] The rules of section 1092 are discussed below.

[114] Sec. 1234(b)(1).

[115] Sec. 865(j).

4. Forward contracts

In general

A forward contract is a bilateral executory contract pursuant to which the forward buyer agrees to purchase from the forward seller a fixed quantity of property at a fixed price (the "forward price") on a fixed future date (the "delivery date"). In a traditional, postpaid forward contract, neither party to the contract makes a payment at the time the contract is executed; payment and delivery occur on the fixed future date.[116] A prepaid forward contract requires the forward buyer to pay the forward seller the forward price (discounted to present value on the date of the payment) at the time the parties enter into the contract.[117]

A forward contract can represent the forward buyer's expectation that the price of the underlying property will increase and the forward seller's expectation that the price will fall. Like options, forward contracts can be physically settled (settlement by delivery of the underlying asset) or net cash settled (settlement by a payment in cash equal to the difference between the contract price and the then-current price at the time the contract expires) or either, at the option of one of the parties.

A futures contract is a forward contract that is standardized and traded on an organized futures exchange, such as the Chicago Mercantile Exchange. The exchange acts as the counterparty to every transaction. As a result, every trade on the futures exchange effectively results in two contracts: one between the forward buyer and the exchange, and the other between the forward seller and the exchange. The parties to a futures contract post variation margin, an amount adjusted daily to reflect the extent to which the position of a futures contract buyer or seller is "in the money" (*i.e.*, has an unrealized profit) or "out of the money" (*i.e.*, has an unrealized loss).

Example 3.–Net cash-settled, forward contract. On December 1, 2011, when XYZ stock is trading at $100 per share, Party A, the forward seller, enters into a net cash-settled forward contract with Party B, the forward buyer, for the forward sale of one share of XYZ stock at a forward price of $106 on December 31, 2012. If the price of XYZ stock on the settlement date is above the forward price, the contract requires Party A to pay Party B the excess of the market price over $106. If the price is below $106 on December 31, 2012, Party B is required to pay Party A the amount by which $106 exceeds the market price.

Current prices of forward and futures contracts and current prices of underlying assets provide similar information about expectations of future prices. Under standard arbitrage theory,

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[116] Although payment of the forward purchase price is not made, the parties may make arrangements for the posting of collateral.

[117] Prepaid forward contracts were relatively uncommon in the markets until the development of publicly traded forward (not futures) contracts some 20 years ago. See, *e.g.*, Douglas H. Walter and Stephanie E. Balcerzak, "Innovative Transactions: Salomon Phibro Crude Oil Trust," vol. 69 *Taxes* (July 1991), p. 416 (describing the offering of a five-year, oil-based prepaid forward contract by Salomon Brothers and its subsidiary, Phibro Energy, Inc.).

the price under a traditional forward or futures contract for a nonperishable, storable commodity (gold, for example) or a traded financial instrument is determined by the item's current spot price at the time the contract is executed, plus the cost to carry the item for the term of the contract (a time value of money return on the cash that would be invested in acquiring the item at execution of the contract and holding it until the final delivery date, together with any warehousing or similar expenses), minus the expected cash yield on the item (for example, expected dividends if the item is corporate stock) over the term of the contract.[118] For example, if one share of stock in Company XYZ costs $100 today, the one-year interest rate is six percent, and XYZ is expected to pay $4 per share in dividends over the coming year, the one-year forward price of one share of XYZ stock would be $102 ($100 plus six percent interest minus $4 yield). If XYZ stock paid no dividend (or instead XYZ stock was a precious metal or foreign currency), the forward price would be $106, reflecting the time value of money.[119]

In each case, the forward price reflects the current spot price, plus the cost to carry, minus projected cash returns over the contract term. If forward prices were higher than that predicted by this model, then arbitrageurs could earn riskless profits by buying the property today with borrowed funds and selling it forward for more than the net cost of the financing and storage. If forward prices were lower, arbitrageurs would sell the property short today, invest the cash proceeds at current interest rates, and buy the property forward to later close the short sale.

Example 4.–Prepaid forward contract. Assume the forward price under a traditional (postpaid) forward contract for one share of XYZ stock on December 31, 2012, is $106. Assume XYZ today does not pay dividends and XYZ stock today trades at $100 per share. On December 1, 2011, Party A and Party B enter into a net cash-settled, prepaid forward contract. Party B, the forward buyer, pays Party A $100 (which is both the current trading price of XYZ stock and the present value on December 1, 2011, of a $106 payment on December 31, 2012). On the settlement date, Party A pays Party B the value of XYZ stock on that date.

Both a traditional postpaid forward contract and a prepaid forward contract afford the buyer the economic return on the asset underlying the contract. If the underlying asset has a current cash yield, then the seller in a prepaid forward contract passes that expected yield to the buyer in the forward price. If the underlying asset does not have a current cash yield (like the share of XYZ stock that does not pay dividends), then the forward price reflects only the spot price of the asset plus any warehousing or similar expenses, and the transaction is similar to a current cash sale.

The forward buyer in a prepaid forward contract pays for the item at the outset. In contrast with a traditional postpaid forward contract, the seller of a prepaid forward contract has use of the buyer's money during the term of the prepaid forward contract. The amount paid to the buyer at settlement thus includes compensation to the buyer for the time value of money. In Example 4, if the price of XYZ stock on December 31, 2012, is $110, Party A pays Party B

[118] Storage of physical assets such as gold (in a vault) or wheat (in a silo) involves actual storage cost; the storage cost for financial assets like stock or Treasury bills is generally expected to be *de minimis*.

[119] These examples ignore storage costs and minor timing differences in the cash flows.

$110, $6 of which compensates Party B for the use of $100 during the term of the contract. If Party B had invested the $100 at prevailing interest rates on December 1, 2011, he would have had $106 on December 31, 2012. The additional $4 that Party A pays Party B represents the additional return on XYZ stock relative to prevailing interest rates.

Timing

The execution of a forward contract generally has no immediate income tax consequences. Like an option, a standard forward contract is an executory contract and is treated as an open transaction until the contract is settled. If a forward contract is settled by delivery of the property underlying the contract, the taxpayer delivering the property recognizes gain or loss based on the difference between the price received and the taxpayer's basis in the property.[120] The forward purchaser, by contrast, reflects the contract price as the basis for the property so acquired; gain or loss (if any) is deferred until the time of a subsequent sale or exchange of the property. The fact that a prepaid forward contract calls for payment by one party to the other party at the time the contract is executed has not been treated as changing the tax treatment of the contract.[121]

Futures contracts traded on futures exchanges are generally treated as "section 1256 contracts" and are subject to a mark-to-market regime and special character rules. As applied to equity futures contracts held by investors, the rules of section 1256 apply primarily to futures contracts on broad-based indices; single-stock futures contracts are governed by a different set of rules in section 1234B.[122] Different rules can apply to section 1256 contracts held as part of a hedging transaction or a mixed straddle.

Character

The character of the gain or loss with respect to a forward contract generally is the same as the character of the property delivered. If the underlying asset is delivered, the forward buyer does not immediately recognize gain or loss, but is treated as having purchased the property with a basis equal to the purchase price. The forward seller recognizes gain or loss equal to the difference between his basis and the forward price. The character of the forward seller's gain

[120] Sec. 1001.

[121] *Cf.* Rev. Rul. 2003-7, 2003-1 C.B. 363 (Feb. 3, 2003) (holding that a shareholder of a publicly traded corporation who entered a variable prepaid forward contract on such stock with an investment bank and pledged the maximum number of shares that might be required to be delivered was not considered to have sold or constructively sold the stock where the amount of stock to be delivered in the future varied significantly depending on the value of the shares on the delivery date, the taxpayer retained an unrestricted legal right to substitute cash or other shares for the pledged shares, and the taxpayer was not economically compelled to deliver the pledged shares).

[122] Section 1234B provides that gain or loss attributable to the sale, exchange, or termination of a securities futures contract shall be considered gain or loss from the sale or exchange of property which has the same character as the property to which the contract relates has (or would have) in the taxpayer's hands. Section 1234B also provides that gain or loss on a securities futures contract, if capital, is treated as short-term capital gain or loss.

generally depends upon the character of the property delivered.[123] If a forward contract is settled by a cash payment, or is cancelled or otherwise terminated, the gain or loss is capital if the underlying asset is capital in nature.[124] If a forward contract is sold, the character of the gain or loss is generally capital if the forward contract is a capital asset in the hands of the selling taxpayer.

As mentioned above, certain traded futures contracts qualifying as section 1256 contracts are subject to a mark-to-market regime and special character rules. Capital gain or loss with respect to a section 1256 contract is treated as long-term capital gain or loss to the extent of 60 percent of the gain or loss and short-term capital gain or loss to the extent of 40 percent of the gain or loss, regardless of the investor's holding period. Different rules can apply to section 1256 contracts held as part of a hedging transaction or a mixed straddle.

Source

The Code does not provide rules for the source of income from trading in forward contracts (including for example, gain or loss from the sale of a forward contract). Instead, Congress directed the Treasury Secretary to prescribe necessary or appropriate regulations applying the source rules for personal property sales to income derived from trading in futures contracts, forward contracts, options contracts, and other instruments.[125] Treasury has not yet issued regulations. In the absence of rules addressing the source of income from trading in forward contracts, the source of this income is generally determined by analogy to existing source rules for income from sales of personal property. Under section 865, income from the sale of personal property is generally sourced based on the residence of the taxpayer, but there are many exceptions to that general rule, including for sales of inventory property and for sales attributable to a U.S. or foreign office or other fixed place of business.

5. Notional principal contracts

Treasury regulations define a NPC as a financial instrument that provides for the payment of amounts by one party to another party at specified intervals calculated by reference to a specified index upon a notional principal amount in exchange for specified consideration or a promise to pay similar amounts.[126] A specified index is defined as a fixed rate, price or amount that must be based on objective financial information not in control of either party. A notional principal amount is defined as a specified amount of money or property that, when multiplied by a specified index, measures a party's rights and obligations under the contract but is not borrowed or loaned between the parties. The regulations exclude certain instruments from the

[123] The character of gain or loss recognized by a forward seller may be affected by the tax straddle and short sale rules of sections 1092 and 1233, respectively.

[124] Sec. 1234A and Prop. Treas. Reg. sec. 1.1234A-1(c)(1).

[125] Sec. 865(j).

[126] Treas. Reg. sec. 1.446-3(c)(1)(i). The definition of an NPC covers instruments commonly referred to as swaps, but that term is not defined in the Code.

definition of NPC including: (1) section 1256 contracts, (2) futures contracts, (3) forward contracts, (4) options, and (5) instruments or contracts that constitute indebtedness for Federal tax purposes.[127]

A traditional interest rate swap is an example of an NPC. Pursuant to such a swap, one party typically agrees to make payments to the other based on a fixed interest rate (*e.g.*, five percent) applied to a notional amount (*e.g.*, $1 million) at regular intervals (*e.g.*, quarterly for two years). In return, the other party agrees to make interest payments based on a variable, or floating, interest rate (*e.g.*, the London Interbank Offered Rate ("LIBOR")) applied to the same notional amount at the same intervals. The $1 million notional amount is used only to calculate the payments required by each party, and does not itself change hands. Amounts owed by the parties are typically netted, so that only a single payment is made on any given payment date.

A traditional interest rate swap can reflect one party's expectation that the payments of a floating interest rate will exceed a specified fixed interest rate (or vice versa) over the term of the contract. These contracts can be understood as the economic equivalent of back-to-back loans of the notional amount. Interest rate swaps can also be understood as a series of cash-settled forward contracts that have been leveled. For example, to replicate the swap, the two parties could enter a series of cash-settled forward contracts on short-term deposits, one paying the fixed rate of interest and the other paying the floating rate of interest. The parties would enter two cash-settled forward contracts for each quarter end.

Other swaps, like a total return swap, can be understood as the economic equivalent of making a 100-percent leveraged investment in the underlying asset. For example, an equity swap is a total return swap on a specified equity security.

Example 5.–Equity Swap. Party A agrees to make 10 payments to Party B on December 31 of each of the next 10 years, in an amount equal to the sum of: (1) the appreciation, if any, in value of 100 shares of XYZ stock during the year, and (2) dividends paid on 100 shares of XYZ stock during the year. Likewise, Party B agrees to make 10 identically timed payments to Party A, in an amount equal to the sum of: (1) the depreciation, if any, in value of 100 shares of XYZ during the year, and (2) a fixed (or floating) rate of interest multiplied by the value of 100 shares of XYZ stock at the beginning of the year. Since the payments are all due on the same day, the parties agree that all payments are netted, and only one party makes a net payment to the other.

Economically, this equity swap puts Party B in the same economic position as it would have been in if it bought XYZ stock at the inception of the swap contract from Party A with money borrowed from Party A, with an agreement to sell the stock back to Party A and repay the borrowing at the end of the 10-year period. Party B incurs the same costs (expressed as the interest on a notional principal amount), receives the same current returns (dividend-equivalent amounts), and is subject to the same market opportunities and risks (appreciation or depreciation

[127] On September 16, 2011, the Treasury Department promulgated proposed amendments to the income tax regulations under sections 1256 and 446 of the Code (Notice of Proposed Rule Making, Fed. Reg. Vol. 76, No. 180, p. 57684). The proposed amendments affect the scope of the term "section 1256 contract" and revise the scope of the notional principal contract regulations under section 446.

in the value of the stock). An equity swap and a leveraged purchase are not, however, identical in every respect. For example, the parties to an equity swap are exposed to the credit worthiness of their counterparties. The holder of an equity swap does not have any of the legal rights that attach to actual stock ownership such as the right to vote on corporate matters or the rights to corporate property upon liquidation. In addition, current securities laws limit leveraged margin purchases to 50 percent of the value of the underlying security.[128] The leverage implicit in an equity swap, however, is not subject to securities margin rules.

Both the interest rate swap and the equity swap described above are common derivative contracts, and both qualify as NPCs under Treasury regulations. Swaps are not, however, limited to interest rates or equities. The variety of possible swaps is limited only by the imagination and investment objectives of parties willing to enter such contracts.

Timing

Regulations promulgated under section 446 require that the parties to an NPC classify each payment pursuant to the contract as either: (i) a periodic payment; (ii) a nonperiodic payment; or (iii) a termination payment.[129] Each type of payment is treated differently. Taxpayers generally must recognize (as income or deduction, whichever is relevant) the ratable daily portions of all periodic and nonperiodic payments for the taxable year to which that payment relates, and must recognize a termination payment in the year the NPC is extinguished, assigned, or terminated (*i.e.*, in the year the payment is made).[130] A swap with a significant nonperiodic payment is treated as two separate transactions consisting of an on-market level payment swap and a loan. The loan must be accounted for independently of the swap. Under proposed regulations, contingent nonperiodic payments (such as a single payment tied to the increase or decrease in the value of the underlying asset) are accrued over the term of the swap based on an estimate of the amount of the payment.[131] The amount of a taxpayer's accrual is periodically redetermined as more information about the expected amount of the noncontingent payment becomes available.[132]

Character

Unlike the character of the income recognized from options and forwards, which typically is determined with reference to the character of gains and losses that result from a

[128] See 12 C.F.R. 220 (Regulation T, establishing securities margin rules for securities brokers and dealers), 12 C.F.R. 221 (Regulation U, establishing securities margin rules for commercial banks that are not securities brokers or dealers), and 12 C.F.R. 224 (Regulation X, establishing securities margin rules for loans not covered by Regulations T or U).

[129] Treas. Reg. sec. 1.446-3(e), (f) and (h).

[130] *Ibid*.

[131] See Prop. Treas. Reg. sec. 1.446-3.

[132] *Ibid*.

taxpayer's transactions with respect to the underlying asset, the character of NPC payments is generally not determined by the character of the underlying asset. Final Treasury regulations do not directly address the tax character of each type of payment made under an NPC. However, proposed Treasury regulations issued in 2004 under section 1234A provide that any payment on an NPC other than a termination payment (*i.e.*, a periodic or nonperiodic payment) generally constitutes ordinary income or expense.[133] The preamble to the proposed regulations explains that ordinary income is warranted because neither periodic nor nonperiodic payments involve the sale or exchange of a capital asset. In contrast, the proposed regulations provide that, by application of section 1234A, gain or loss attributable to the termination of a swap contract would be capital if the contract is a capital asset in the hands of the taxpayer.[134] The proposed regulations state that final settlement payments with respect to an NPC are not termination payments under section 1234A.[135]

Source

To the extent a payment is not otherwise treated as a dividend equivalent payment under section 871(m), income from an NPC is generally sourced by reference to the residence of the recipient, unless the income is effectively connected with a U.S. trade or business.[136] Consequently, a foreign person's income related to an NPC referencing stock of a U.S. corporation, including amounts attributable to dividends paid on the stock, is generally foreign source income and exempt from U.S. withholding tax.

Under special rules described in section IV.D. below, some payments to foreign persons on some NPCs are treated as U.S.-source dividend equivalent payments subject to U.S. withholding tax.

Summary Table

The following table summarizes the general rules with respect to timing, character, and source of income and gain or loss with respect to each of the foregoing types of instruments. Exceptions to the general rules apply in many instances, though these exceptions are not noted in the interest of brevity.

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[133] Prop. Treas. Reg. sec. 1.1234A-1.

[134] The proposed regulations would treat any payment on a "bullet swap" or forward contract, including payments made pursuant to the terms of the contract, as termination payments for purposes of Section 1234A. Both of these types of contracts provide for all payments to be made at or close to the maturity of the contract. Prop. Treas. Reg. sec. 1.1234A-1(c). More recent proposed amendments to the income tax regulations under sections 1256 and 446 call into question this analysis. Among other things, the proposed amendments treat the fixing of an amount as a "payment" for purposes of the definition of a notional principal contract, even if the actual payment reflecting that amount is to be made at a later date.

[135] Prop. Treas. Reg. sec. 1.1234A-1(b).

[136] Treas. Reg. sec. 1.863-7. The regulations provide exceptions for income earned through a U.S. branch and certain section 988 transactions.

Table 2.–Overview of Tax Rules for Certain Financial Instruments[1]

Instrument	Timing	Character	Source
Stock	Gain or loss deferred until taxable disposition Dividend income taken into account when received or accrued	Gain or loss long-term or short-term capital depending on holding period Dividend income ordinary (subject to long-term capital gains tax rate through 2012)[2]	Gain or loss on disposition generally taxpayer residence Dividend income generally residence of payor
Partnership interest	Gain or loss deferred until taxable disposition Partnership income taken into account in the partner's taxable year within or with which the partnership taxable year ends, regardless of whether or not distributed	Gain or loss on disposition capital except to the extent attributable to certain partnership ordinary income assets Character of partnership income determined at partnership level and passed through to partner	Gain or loss on disposition generally taxpayer residence (see discussion) Partnership income depends on nature of the income item
Debt	Gain or loss recognized at time of taxable sale or exchange Interest taken into account when received or accrued, OID accrues over life of instrument	Gain or loss on disposition capital Interest income ordinary	Gain or loss on disposition generally taxpayer residence Interest income generally residence of payor
Option	Deferred until settlement date or expiration	Capital based on sections 1234 and 1234A	See discussion
Forward Contract	Deferred until settlement date	Based on nature of underlying asset (usually capital)	See discussion
Exchange-traded futures and options	Marked to market at end of taxpayer's tax year	60 percent long-term capital and 40 percent short-term capital (unless otherwise ordinary) under section 1256, regardless of holding period	See discussion
NPC	Accrual of periodic and non-periodic payments. Gain or loss deferred until taxable disposition or early termination	Periodic and non-periodic payments generally ordinary income Termination payment capital based on section 1234A	Generally taxpayer residence on NPC income

[1] Table adapted from Stevie D. Conlon and Vincent P. Aquilino, *Principles of Financial Derivatives, U.S. and International Taxation*, Exhibit B1.1, p. B1-5 (2010). The table assumes the relevant asset is (or would be) held as a capital asset.

[2] Corporate recipients of dividends may be eligible for a dividends received deduction.

B. Relationships Among Financial Instruments

The preceding discussion has described five basic financial instruments separately. However, there are relationships among the various financial instruments. Fundamentally, financial instruments facilitate transfers of cash or property with specific timing and risk characteristics at a particular price or expected return. Equity affords voting rights and risky returns subject to the fortunes of the venture. Debt is senior to equity in bankruptcy proceedings and typically involves the payment of a sum certain on a specified date (or dates) in the future. Basic options permit an investor to assume the risk of price movements in underlying assets in one direction or another. Forward contracts create an obligation to purchase property at a fixed price on a fixed future date. Swaps are flexible instruments that can be used to take on many different economic risk positions.

These basic financial instruments can be combined to replicate the economic returns of virtually any underlying asset or to create an economic profile that is unique. A total return swap, for example, achieves this directly through the specified terms of the contract. Similar results can be achieved, however, through combinations of other financial instruments. Forward contracts, option contracts, and swaps on a common underlying asset are all directly related to each other, and to the underlying asset that they reference. In practice, this close connection means that financial specialists can engineer one such contract from the others, or separate one component of an underlying asset's returns from the others, and sell those separate components to different taxpayers. Innovative financial instruments often represent new ways of combining characteristics of existing financial instruments, such as timing or risk, to achieve a different combination of the characteristics of existing products.

Financial equivalency

Forwards and options

A postpaid forward contract is economically equivalent to selling a European-style put option and purchasing a European-style call option where the strike prices are equal in both cases to the forward price. (This is the basis of "put-call parity," described below.) For example, if the forward price of a share of XYZ stock on December 31, 2012, is $106, a party selling a put with a $106 strike price and buying a call at the same strike price assumes the same risk as the forward buyer (Party B) in Example 3 (on page 36). In the case of the forward, if the price of XYZ stock on the settlement date is above the forward price, the contract requires Party A to pay Party B the excess of the market price over $106. If the price of the stock is below $106 on December 31, 2012, Party B is required to pay Party A the amount by which $106 exceeds the market price. Similarly, in the case of the options, if the price of XYZ stock is above $106 on December 31, 2012, the call option gives Party B a right to the upside in XYZ's stock price, and if the price is below $106, the put option will require Party B to pay the downside.

Similarly, a prepaid forward contract is economically equivalent to the sale of a put and the purchase of call at the forward price plus the acquisition of a zero-coupon bond (maturing on the delivery date) with a principal amount equal to the forward price. For example, the forward buyer (Party B) in Example 4 (on page 37) could purchase a zero-coupon bond from the prepaid forward seller (Party A) that pays an amount equal to the forward price ($106) on the delivery

date (rather than paying the same sum to the counterparty under the forward contract). Then, as discussed above, Party B could enter into offsetting puts and calls with Party A with a strike price equal to the forward price. The effect of purchasing the zero-coupon bond is the same as prepaying the forward price. Party B will not have to produce additional funds to pay Party A to exercise its call option (if the underlying asset increases in price) or satisfy its obligation on the put (if the underlying asset decreases in price).

Put-call parity

Consider the relationship between the price of a stock, a zero-coupon bond, a put option, and a call option. The relationship between European-style put and call options with the same strike prices and expiration dates is known as "put-call parity." This relationship is expressed algebraically in Equation 1 below.

$$S + P(K) = Z(K) + C(K) \qquad \text{(Equation 1)}$$

Where:

S is the value of a share of stock, which pays no dividends, on the expiration date of European-style put and call options (P and C);

P(K) is the value of an option to sell (put) S at a strike price of K on the expiration date;

Z(K) is a zero-coupon bond worth K on the expiration date of the options (P and C); and

C(K) is the value of an option to buy (call) S at a strike price of K on the expiration date.

One commentator has explained the relationship expressed by Equation 1 as follows:

> Intuitively, this relationship [among the values of the stock, the bond, and the options] makes sense, because an investor who holds both a share of stock and a put at a strike price of K . . . will at the date of exercise have assets worth S but no less than K, because he will exercise the put if S is less than K. Similarly, an investor who holds a zero[-coupon bond] that will pay K on the exercise date and a call at a strike price of K is guaranteed the value of K on that date; if S is then greater than K, she will exercise the call to receive stock with the value of S. If the stock plus a put must equal the zero[-coupon bond] plus a call on the exercise date, the two positions must also be equal in value before that date if there are competitive markets for each contract. Otherwise, arbitrageurs would sell the more expensive position and acquire the cheaper position to obtain a riskless windfall to the extent of the difference in value.[137]

[137] Alvin C. Warren, Jr.,"Financial Contract Innovation and Income Tax Policy," *Harvard Law Review,* vol. 107, 1993, pp. 460, 466.

Using simple algebra, Equation 1 can be solved for S, showing the combination of instruments that capture the value of the stock. This is expressed algebraically as Equation 2 below.

$$S = Z(K) + C(K) - P(K) \qquad \text{(Equation 2)}$$

The value of the stock, S, on the expiration date of the options can be replicated by: (1) purchasing a zero-coupon bond that pays K (the strike price of the options) on the expiration date of the options, C and P; (2) purchasing a call option, C, on S at price K; and (3) writing a put option on S at price K (with the same expiration date as the options). If the value of S on the expiration date of the options is greater than K, the call option is exercised, increasing the return to the holder of the option/bond combination to the amount that would have been provided by ownership of S. If the value of S on the expiration date of the options is less than K, the put option is exercised by the counterparty, reducing the return to the holder of the option/bond combination to the amount that would have been provided by ownership of S.

Different treatment of economically equivalent portfolios

As noted above, derivatives can be used to replicate the cash returns of virtually any underlying asset. An investor may construct a portfolio of underlying securities and derivatives to achieve the desired combination of risk and return attributes related to the rights and obligations under the contracts and timing of cash flows. However, economically equivalent ownership of assets and derivatives may be treated differently for tax purposes. Differences in tax treatment of economically equivalent portfolios may allow taxpayers to some extent to elect the timing, character, and/or source of income for tax purposes that is most advantageous.[138]

For example, consider the tax treatment of the following economically equivalent portfolios. Portfolio A involves: (1) purchasing stock S; (2) writing a call option C on S at a strike price of K; (3) purchasing a put option P on S at a strike price of K. Portfolio B involves the purchase of a zero-coupon bond that pays K on the expiration date of the options in portfolio A. Assume that on the expiration date the price of S has risen. The investor sells S, satisfies the call option that is exercised against him by the counterparty, and allows the put option to expire. The values of these two portfolios on the expiration date of the options are equal. However, the tax treatment of the two portfolios differs.

Portfolio A affords the taxpayer deferral on any gain or loss on the sale of stock and on any change in the value of the options. The character of any income is capital.

Portfolio B requires the taxpayer to include in income annually OID on the zero-coupon bond. There is no deferral. Furthermore, the character of the income is ordinary.

[138] David M. Schizer, "Sticks and Snakes: Derivatives and Curtailing Aggressive Tax Planning," *Southern California Law Review*, vol. 73, pp. 1339-1406, available at http://www-bcf.usc.edu/~usclrev/pdf/073603.pdf.

Efficiency consequences

If two portfolios are economically equivalent in terms of risk, pretax return, rights, obligations and timing, an investor should be indifferent between the two. However, if different tax treatment of the two portfolios results in different after-tax returns, investors may alter the form of their portfolios to exploit this different treatment. Investors may expend additional resources on tax planning to achieve this result, representing an inefficient allocation of resources as they result in no additional pretax return.

Different tax treatment of otherwise economically equivalent transactions also creates opportunities for adverse selection by taxpayers against the fisc. That is, if taxpayers to some extent can choose their tax treatment, they are likely to choose arrangements that result in a lower combined tax bill for all parties involved in a transaction. As alternative investment portfolios become more readily accessible to retail investors and provide more opportunities for them to replicate various positions at lower costs, investors may gravitate towards tax-advantaged forms of investment, thus reducing overall tax revenues. To raise a given amount of revenue, the government may need to increase tax rates elsewhere. This could lead to efficiency losses in the economy if these taxes distort the decisions of taxpayers to work or invest.

Equity consequences

Different tax treatment also raises issues of horizontal and vertical equity. In the context of an income tax, horizontal equity means that taxpayers with similar incomes pay similar amounts of tax, while vertical equity means that taxpayers with higher incomes pay more in tax. Taxpayers with similar incomes from two portfolios that are treated differently for tax purposes may pay different amounts of tax. The taxpayer who holds portfolio A defers any gain and pays tax at preferential capital gains rates on that income. The taxpayer who holds portfolio B pays taxes currently at ordinary income tax rates. Deferral lowers the effective tax liability of the taxpayer with portfolio A relative to the taxpayer with portfolio B, even in the absence of any preferential capital gains tax rate.

To the extent that higher income taxpayers may have a greater ability to restructure portfolios in a tax advantageous manner, disparate treatment of economically similar portfolios may raise concerns about vertical equity as well. That is, taxpayers with higher economic income, who can more readily restructure their portfolios, may pay the same amount of tax as taxpayers with lower economic income, violating the principle that differently situated taxpayers should be treated differently.

C. Financial Accounting Treatment of Financial Instruments

1. In general

The main purpose of financial accounting is to prepare financial reports that provide information about a firm's financial position to external parties such as investors and creditors. Such information is intended to be useful in making economic decisions by providing information that reflects the underlying economics of a firm's transactions.

Holding or issuing debt or equity, or entering into derivative contracts, affect firms' financial reports under GAAP. The financial reporting rules for financial instruments determine whether a particular type of instrument should be recorded at historical cost or at fair value. Historical cost is a measure of value based on the nominal or original cost at the time of acquisition. Fair value is a measure of value based on current market prices at the financial statement date and is comparable to mark-to-market in the Code.[139] GAAP has adopted a set of rules for valuing financial instruments (including equity, debt, and derivatives) that contains elements of both the fair value and historical cost approaches, often referred to as the "mixed attribute" model. GAAP further distinguishes between gains and losses that are reported in earnings versus those that are recorded in shareholder's equity as other comprehensive income ("OCI").[140]

A firm's relationship to a financial instrument largely determines the valuation of that instrument for financial reporting purposes. Financial accounting treatment varies if a firm is a holder as opposed to an issuer of an instrument. Debt instruments that a firm holds receive different treatment depending on the firm's intention with respect to the holding period of the instrument. Equity instruments receive different treatment depending on whether the investment allows the firm to exert influence or control over the other entity. Derivative instruments are valued at fair value, but special treatment is provided for instruments designated as a hedge. Additional special rules apply to instruments with embedded derivatives and instruments containing characteristics of both debt and equity (hybrid instruments).

This section outlines the financial accounting consequences of holding and issuing debt and equity instruments and the consequences of entering into derivatives contracts. This discussion is followed by a description of special rules for hedging, derivatives embedded in other instruments, and hybrid instruments. This section concludes with a discussion of the major differences between the financial accounting and tax rules for financial instruments and the consequences of those differences on a firm's financial reports.

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[139] Under fair value accounting, financial instruments are valued at the estimated prices at which they could change hands in orderly transactions based on current information and conditions.

[140] OCI is recorded directly to the equity section of an entity's balance sheet and does not impact a firm's reported earnings or earnings per share.

2. Consequences of holding and issuing debt and equity

A firm's debt and equity instrument holdings are included in the asset section of the firm's balance sheet. The determination of whether debt or equity instruments are recorded at fair value or historical cost is made according to the type of instrument (debt or equity), the firm's proportional ownership share of any equity investment, and the firm's intent with respect to the holding period of the security. In addition, GAAP permits a firm to elect fair value measurement for a wide range of financial assets and liabilities where such treatment is not otherwise required.[141] Thus, fair value accounting is permitted for most financial instruments held by a firm.

When a firm issues debt or equity, the instrument is recorded in either the liabilities or the shareholders' equity portion of the balance sheet. The classification as either debt or equity affects earnings as well as various ratios that are important to creditors, regulators, and investors. The issuer of debt and equity instruments generally records the instrument at historical cost rather than fair value. The fair value election is generally available for debt instruments issued, but does not apply to equity instruments issued. In addition, the issuer must disclose the fair value of outstanding debt instruments in the footnotes to the financial statements.

Holding debt

A firm's intention regarding the holding period of a debt instrument determines its financial accounting treatment. GAAP provides different accounting treatment for three separate categories of debt instruments: held-to-maturity securities, trading securities, and available-for-sale securities.[142]

Debt instruments that a firm has the positive intent and the ability to hold to maturity (held-to-maturity securities) are valued at historical amortized cost, reduced by any other-than-temporary losses.[143] Other-than-temporary losses must be charged to earnings in the period in which the loss occurs. Thus, temporary unrealized gains and losses are not reported in the firm's earnings. By valuing debt instruments held for long-term investment at historical cost, firms

[141] ASC 825 - Financial Instruments. Eligible instruments include all recognized financial assets or liabilities except for investments in consolidated subsidiaries, interests in consolidated variable interest entities, assets or obligations relating to employee benefits, financial assets or liabilities relating to leases, demand deposit liabilities and financial instruments where all or part are classified as a component of equity by the issuer.

[142] ASC 320 - Investments (debt and equity). Examples of debt securities include bonds, convertible debt, collateralized mortgage obligations, preferred stock that must be redeemed, real estate mortgage investment conduits, and interest-only and principal-only strips. Examples of equity securities include common stock, preferred stock, warrants, and rights.

[143] The term "other-than-temporary" is designed to distinguish certain declines in value from those that are temporary. An impairment in value need not be considered permanent to be classified as other-than-temporary. ASC 320 provides many factors that must be considered in making a determination of whether a decline is temporary or not.

avoid earnings volatility related to temporary changes in the market value of debt instruments they intend to redeem for the full face amount at maturity.[144]

Debt instruments bought and held primarily for sale in the near term (trading securities)[145] are valued at fair value, and all unrealized holding gains and losses (both temporary and other-than-temporary) are included in earnings. Debt instruments that do not meet the criteria to be classified as either held-to-maturity or trading (available-for-sale securities) are valued at fair value, but unrealized gains and losses are reported in OCI as opposed to earnings.[146]

Issuing debt

Debt instruments issued by a firm are recorded in the liabilities section of the balance sheet at historical amortized cost.[147] In general, any instrument treated as debt for financial reporting purposes has an actual or imputed interest expense component. This interest expense must be taken into account in deriving net income and, thus reducing the issuer's earnings per share. Furthermore, creditors (lenders) often require issuers to meet interest coverage ratios[148] pursuant to covenants agreed to in loan documents.[149] The more interest expense an issuer has, the more earnings are required to maintain the interest coverage ratio to avoid violation of debt covenants.

Issuing additional debt instruments increases a firm's leverage ratio.[150] This ratio is often used by lenders to determine whether a firm can obtain additional future financing, how expensive that financing will be (for example, an increase in an firm's leverage ratio can reduce

[144] However, as noted above, a fair value election is allowed for held-to-maturity securities.

[145] For example, trading securities include instruments that organizations hold in lieu of cash to earn a higher rate of return than a bank account.

[146] A fair value election is allowed for available-for-sale securities. If the election is made, unrealized gains and losses are reported in earnings.

[147] However, a fair value election is generally allowed for debt instruments treated as liabilities for financial accounting purposes.

[148] The interest coverage ratio is a measure of the number of times a firm could make the interest payments on its debt with its earnings before interest and taxes ("EBIT"). In general, the lower the interest coverage ratio, the higher the debt burden and the greater the possibility of bankruptcy or default. The formula for the interest coverage ratio is: EBIT / interest expense.

[149] Debt covenants are generally agreements between a firm and its creditors requiring or forbidding certain actions of the firm. For example, a firm may be required under a covenant to limit other borrowing or to maintain no more than a certain level of leverage.

[150] In general, the leverage ratio is a measure of the amount of equity in comparison to debt or the amount of earnings in comparison to debt. Although there are variations on the formula used, one leverage ratio, the debt-to-equity ratio, is as follows: (short term debt + long term debt) / shareholder's equity. Shareholder's equity includes the paid-in capital amounts plus retained earnings.

its credit rating or increase the rate of interest), and whether the firm is in compliance with debt covenants under its existing obligations.[151]

Holding equity

The financial accounting for equity instruments is based on the extent to which the firm's total investment in another entity allows it to influence or control the other entity. Equity investments are separated into three categories: investments that do not give rise to influence, investments giving rise to influence, and investments giving rise to control. For financial reporting purposes, no distinction is made between equity instruments held in legal entities organized as corporations versus those organized as partnerships.

Investments that do not give rise to influence

An investment of less than 20 percent in an entity is presumed not to enable the firm to exert a significant influence, unless such ability can be demonstrated. If a firm holds equity instruments for the short term they are classified as trading securities and marked to fair value with gains and losses recorded in earnings. If an equity instrument does not meet the criteria to be classified as a trading security, it is treated as an available-for-sale security and valued at fair value with gains and losses recorded in OCI.[152]

Investments giving rise to influence

An investment giving rise to influence is a 50-percent or less interest that gives the firm the ability to exercise significant influence over operating and financial policies of an entity. The equity method is generally used to account for this type of equity investment.[153] This category of equity investment is commonly used to report investments in corporate joint ventures where a firm holds less than a controlling interest.

Under the equity method, the equity investment is recorded on the firm's balance sheet at its historical cost. Thus, the proportional share of the net assets (equal to assets minus liabilities) is included as an asset (or liability) in the firm's financial statements. Over time, the value of the investment is increased by the firm's proportional share of the equity investment's earnings and is reduced by any dividends received. The proportional share of the equity investment's earnings is included in the firm's earnings for the current period.

[151] The specific loan requirements vary on a case-by-case basis. Another common ratio used in loan covenants is the debt service coverage ratio, computed as: cash available for debt servicing / (interest + principal + lease payments). It is used to measure a firm's ability to produce enough cash to cover its debt payments.

[152] A fair value election is allowed for available-for-sale securities. If the election is made, unrealized gains and losses are reported in earnings.

[153] ASC 323 - Investments. A fair value election is generally allowed for equity investments giving rise to influence.

Investments giving rise to control

An investment giving rise to control is a more than 50-percent interest in another entity. For this category of equity investment, the assets and liabilities of the entity must be consolidated with those of the firm.[154] If entities are consolidated, the gross values of the assets, liabilities, revenues, and expenses of the investment (subsidiary) are included in the firm's financial report, even though the firm (the parent) may own less than a 100-percent interest. The firm's income statement and balance sheet contains a single line item subtracting proportional net income and net assets attributable to any minority ownership interests in the entity.

Issuing equity

When a firm issues equity, the proceeds are recorded in the shareholders' equity section of the balance sheet (historical cost). A payment on equity is treated as a dividend which reduces the issuer's shareholders' equity on the balance sheet, but does not reduce net income (earnings).

A firm that issues equity instead of debt reports higher net income as a result of the forgone interest expense. Nonetheless, the issuance of additional equity generally dilutes earnings per share (since the denominator, number of shares issued and outstanding, increases, while the numerator, net income, is not impacted by the additional equity issuance). In addition, although the issuance of equity has no impact on the interest coverage ratio, it decreases the leverage ratio (since the denominator, equity, increases). Improvements in the leverage ratio resulting from an equity issuance may afford a firm greater ability to borrow in the future.

3. Consequences of entering into a derivative contract

While the tax rules prescribe different treatment for different types of derivatives, for financial reporting purposes, all derivative instruments are required to be measured at fair value.[155]

Generally, all unrealized gains and losses must be reported in current period earnings. Derivative instruments are required to be recorded on an entity's balance sheet.[156] If an entity expects to receive payment, the derivative instrument is classified as an asset. If an entity expects to make a payment, it is classified as a liability. Changes in the value of the underlying item and corresponding changes in the expected receipts or payments under the derivative contract can cause the classification as an asset or liability and the recorded amount to vary over time. Separate rules apply to instruments that are designated as a hedge (described below).

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[154] ASC 810 - Consolidation. The fair value election is not allowed for equity investments that are required to be consolidated.

[155] ASC 815 - Derivatives and Hedging.

[156] Prior to the issuance of guidance on derivatives and hedging, effective for the year ended December 31, 2001 for calendar year end financial statement issuers, entities were not required to report derivative instruments on the balance sheet. SFAS No. 133 (now ASC 815) was the first comprehensive framework for accounting and reporting standards for derivative instruments and for hedging activities.

The amount of the asset or liability recorded on the balance sheet reflects a snapshot of the value of the instrument at that point in time. GAAP requires additional disclosures to be made in the footnotes to the financial statements to provide supplemental information regarding the risks associated with derivative instruments and the potential consequences if underlying conditions change.

4. Special rules

Hedging

Much of the complexity surrounding the financial accounting for derivatives is related to hedge accounting. Similar to the tax rules for hedging ordinary exposures, the objective of hedge treatment for financial reporting purposes is a proper matching of the timing of gain or loss recognition on a derivative instrument used for hedging purposes with the income or expense recognition related to the item being hedged. [157] Although the objective of the financial accounting and tax rules are the same, the rules involved, including the definition of a "hedge," are different. For example, for tax purposes, neither the hedging instrument nor the underlying asset is marked to market.[158] In contrast, for financial reporting purposes, the hedging instrument and the underlying asset are both marked to market.

GAAP defines three separate categories for risks that can be hedged: fair value hedge, cash flow hedge, and net investment hedge. The specific treatment of a hedge depends on the type of risk being hedged. Identification of the hedge at the onset of a contract and substantial documentation are required to qualify an instrument for hedge treatment.

Fair value hedge

For a derivative designated to hedge the exposure to changes in the fair value of an asset, liability, or a firm commitment, a timing difference arises if the derivative instrument is valued at fair value while the underlying asset is required to be valued at historical cost (such as a held-to-maturity debt security) or the lower of cost or market value (such as inventory). GAAP addresses this inconsistency by creating an exception that allows the hedged item to be marked to market.[159] Thus, the gain or loss recognized on the derivative is offset by the gain or loss on

[157] For tax rules related to hedging, see generally sec. 1221(b)(2) and the accompanying regulations.

[158] See, *e.g.*, sec. 475(b) (exempting securities held for certain hedging purposes from the section 475 mark-to-market rules).

[159] ASC 815-20-25 - Derivatives and Hedging: Hedging: Recognition. Common examples of a fair value hedge include the use of an interest rate swap to economically change fixed rate debt into variable rate debt, use of futures contracts to hedge the fair value of inventory (such as commodities), the use of a forward contract to hedge a firm commitment to buy or sell inventory, and the use of purchased options to hedge available-for-sale securities.

the hedged item, resulting in a net effect in earnings only to the extent to which the hedge is not perfectly effective in offsetting changes in the fair value of the hedged item.[160]

Cash flow hedge

For a derivative designated to hedge the exposure to variable cash flows of an upcoming, forecasted event, a different type of timing mismatch can occur for which the firm may wish to enter into a cash flow hedge.[161] For example, if a firm expects to purchase steel in the future, the firm is exposed to variability in the future price of steel. The firm may enter into a forward contract to purchase steel at a price of $700/ton to hedge this exposure. A subsequent decrease in the price of steel to $650/ton has no economic impact on the firm because the contract offsets the benefit of the price decrease. The forward contract constitutes a liability, as it requires the firm to purchase steel at a price ($700/ton) above the current market price. However, the firm's balance sheet does not recognize an obligation related to the expected price of future purchases. Current recognition of the unrealized gains and losses on the forward contract creates a timing mismatch because the future cash flow that is being offset does not affect earnings until a later period. GAAP addresses this inconsistency by allowing the portion of the gain or loss that is determined to be effective as a hedge to be initially reported as OCI.

The gains and losses are subsequently reclassified into earnings at the time the underlying cash flow affects earnings. Like the fair value hedge, the ineffective portion of the gain or loss is reported in earnings immediately.

Net investment hedge

For a derivative designated as hedging the foreign currency exposure of an investment in a foreign operation, a timing mismatch can occur because translation gains and losses are included in OCI rather than earnings. GAAP addresses this inconsistency by allowing the portion of the gain or loss that is determined to be effective to be reported in OCI rather than earnings. Like the fair value hedge and cash flow hedge, the ineffective portion of the gain or loss is reported in earnings immediately. Hedges of foreign currency risk that do not relate to an investment in a foreign operation, such as a foreign currency hedge on an available-for-sale security, are treated as a fair value hedge or a cash flow hedge, as appropriate.

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[160] GAAP deems a hedge effective to the extent that the changes in fair value or cash flow of the hedged item and the hedging derivative offset each other. Any remaining gain or loss that does not offset with the change in the value of the hedged item considered to be ineffective. By electing the fair value option for an asset or a liability that is otherwise valued at historical cost, a firm may be able to replicate hedge accounting treatment for a fair value hedge by electing to mark the hedged item to market, as would be permitted for a hedge, while avoiding the identification and documentation requirements of hedge accounting.

[161] ASC 815-20-25-3 - Derivatives and Hedging. Common examples of a cash flow hedge include a hedge of a forecasted sale or purchase of a commodity with forward futures or option contracts, hedge of variable interest payments or receipts on a debt instrument or investment through the use of an interest rate swap that economically converts the variable payments or receipts into fixed payments or receipts, hedge of a forecasted foreign-currency-denominated sale or purchase through the use of foreign currency forward contracts.

Embedded derivatives

In some instances, a derivative feature may be embedded within a contract that does not meet the definition of a derivative in its entirety. When this occurs, a determination must be made as to whether the derivative is to be bifurcated and the component pieces accounted for separately under GAAP.[162] This treatment prevents a firm from avoiding the GAAP required reporting for derivatives merely by embedding a derivative instrument in a nonderivative financial instrument or other contract.

Hybrid instruments

In practice, the traditional distinction between equity and debt is blurred through the use of instruments with characteristics of both.[163] For example, convertible bonds are a type of debt that the holder can convert into equity of the issuing firm at an agreed-upon price under certain stipulated terms.[164] Additionally, preferred stock commonly has characteristics similar to debt, such as maturity amounts and dates at which the preferred shares must be redeemed.[165]

These hybrid instruments raise the question of whether they should be recorded as a liability or equity for the issuing firm. The GAAP treatment of convertible debt depends on the specific terms involved. Traditional convertible debt is classified entirely as a liability and upon conversion the carrying amount of the liability is reclassified as equity.[166] However, in circumstances in which debt contains a conversion option that is in the money at the date of issue, or if the debt can be settled wholly or partly in cash, GAAP generally requires the issuer of the instrument to split the instrument into its separate debt and equity components.[167] The issuer does so by first valuing the debt component and then subtracting this value from the total proceeds received to derive the equity component. As discussed above, if a debt or equity instrument contains a derivative component, that component must be separated and treated according to the rules for derivatives.

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[162] ASC 815-15-25-1- Derivatives and Hedging.

[163] For a more detailed discussion of the financial accounting consequences of debt and equity financing, see Joint Committee on Taxation, *Present Law and Background Relating to Tax Treatment of Business Debt* (JCX-41-11), July 11, 2011, pp. 90-94.

[164] Although it typically has a low interest rate, the convertible bond provides additional value to the holder through the option to convert the bond into stock. The reduced cash interest payment benefits the issuer. If the bonds are converted to stock, the issuer's debt disappears, but the equity in the issuer is diluted.

[165] FASB *Concepts Statement No. 6 ("Con. No. 6"): Elements of Financial Statements*, December 1985, par. 55.

[166] ASC 470-20-05 - Liabilities.

[167] FASB Emerging Issues Task Force, *Income Tax Consequences of Issuing Convertible Debt with a Beneficial Conversion Feature* (Issue No. 05-08), August 29, 2005, and FASB Staff Position APB 14-1, *Accounting for Convertible Debt Instruments That May Be Settled in Cash upon Conversion (Including Partial Cash Settlement)*, May 9, 2008.

In other cases, GAAP requires financial instruments labeled as equity that have characteristics of both debt and equity to be classified as a liability on the balance sheet. For example, preferred stock is classified as equity when settlement requires delivery of an ownership interest. However, some instruments labeled as preferred stock are instead classified as liabilities. For example, mandatorily redeemable preferred stock is classified as a liability.[168] These instruments are structured such that they embody an unconditional obligation requiring the issuer of the instrument to redeem it by transferring assets at a specified or determinable date (or dates) or upon an event that is certain to occur.

5. Issues in financial accounting for financial instruments

As discussed above, the objective of financial accounting is to provide information that can be used in economic decision making. However, financial reports have a limited ability to impart information to investors about additional leverage and increased risks (or potential rewards) associated with financial instruments because financial statements are historical in nature. In addition, questions have been raised about the appropriateness of valuing financial instruments at historical cost versus fair value. This section includes a discussion of these issues in financial accounting.

Historical nature of financial reports

The information provided by financial reporting largely reflects the financial effects of transactions and events that have already happened. Management may communicate information about its plans or projections, but financial statements and most other financial reporting are historical.[169] For example, the current market price of a readily marketable equity instrument and the purchase price of a bond that is held to maturity are historical facts. Similarly, the fair value of a derivative instrument on the balance sheet reflects a snapshot of the value of the instrument at that point in time. The value of a derivative instrument reported on the balance sheet does not provide insight into the effects of macroeconomic developments or the risks and consequences if conditions underlying the value of derivative instruments should change.[170]

Because of the leverage derivatives allow, an identical value on a balance sheet at one point in time can have different consequences for the future. For example, an investor with $1,000 could purchase 10 shares of $100 stock or could purchase 100 options to purchase a share of stock for $100 per share on some date in the future for $10 per option. Each investment is recorded as an asset with a fair market value of $1,000. If the stock decreases in value to $90 on the next financial statement date, the investment in 10 shares of stock is recorded at a fair market value of $900, but the 100 options may be worth almost zero (because of the market's perceived

[168] ASC 480-10-25-4- Distinguishing Liabilities from Equity provides that a mandatorily redeemable financial instrument is classified as a liability unless the redemption is required to occur only upon the liquidation or termination of the reporting entity.

[169] *Con. No. 1*, paragraph 21.

[170] Financial Crisis Advisory Group, *Report of the Financial Crisis Advisory Group*, July 28, 2009. This report is available at www.fasb.org.

likelihood that the share price will exceed the strike price is zero). The identical $1,000 value recorded for both investments at the earlier financial statement date does not impart any information to the investor on the different risk profile of each investment.

Another question in financial reporting is whether an instrument should be recorded at fair value or at historical cost. The principle of fair value reporting is comparable to mark-to-market principles in the Code.[171] While historical cost reporting remains important in financial reporting, fair value reporting is more common in financial reporting than in measuring taxable income.[172] The application of this principle of fair value reporting is one factor creating differences between reported financial income and taxable income, so-called "book-tax" differences (discussed below).

Fair value versus historical cost

Fair value and historical cost accounting each have certain advantages and disadvantages to achieving the objective of providing an accurate and precise statement of a firm's financial position. While historical cost information may become out-of-date, the acquisition cost at some point in time is a precise measure. In contrast, fair value records are timely and more comparable across firms because they are based on current values rather than on values at varying historical points in time. However, when objective published market values for a financial instrument or its underlying asset are not available, fair values may be difficult to estimate and unreliable.[173]

The use of one approach versus the other can affect reported earnings when market prices fluctuate. Financial accounting standards are intended to avoid selective omissions of losses (or gains) from an income statement.[174] Under the historical cost approach, a firm has the ability to manage the timing of profits or losses by selecting to realize cumulative unrealized gains and losses on certain positions through the timing of a transaction. In contrast, under the fair value

[171] Under fair value accounting, financial instruments are valued at the estimated prices at which they could change hands in orderly transactions based on current information and conditions.

[172] In recent years the prevalence of fair value accounting under GAAP has increased. See ASC 815 - Derivatives and Hedging (released in 1998), ASC 820 - Fair Value Measurements (released in 2006), and ASC 825 - Financial Instruments (released in 2007).

[173] While many assets have observable market prices (*e.g.*, a stock traded on the New York Stock Exchange) or inputs that are based on them (*e.g.*, interest rate swap where its components are observable data points like the yield on a 10-year Treasury bond), many assets include one or more inputs that do not have observable prices. Fair value of these assets is reliant on management estimates and various models may be used to estimate the fair value. When companies "mark to model" they are not forced to write down prices because of current market turmoil, but footnote disclosures that are required to be included in the financial statements provide information for investors and regulators to assess the adequacy of the write-downs. In addition, if models are used, a firm's management must take current market pricing and conditions into account as if the position were being sold or terminated.

[174] FASB Statement of Financial Accounting Concepts No. 5: Recognition and Measurement in Financial Statements of Business Enterprises (December, 1984), par. 35.

approach, a firm cannot selectively realize gains and losses because all financial instruments are marked to market (*i.e.*, unrealized economic gains and losses are reported in the period in which they occur).

When market prices for a financial instrument fluctuate temporarily, a financial report based on historical cost avoids volatility in net income related to temporary changes in the fair value of instruments (which are arguably irrelevant to the firm's financial position if the temporary change reverses itself while the firm continues to hold the financial instrument). However, if the market prices for a financial instrument change permanently, a financial report based on historical cost principle delays reporting gains or losses associated with the change in price until realization and may mislead creditors and investors regarding a firm's financial position. Furthermore, some have argued that fair value accounting exacerbates the cyclical nature of financial markets.[175]

6. Major differences between tax and financial accounting for financial instruments

Differences between book and tax reporting primarily arise in the areas of exclusions of interest or dividends from taxable income,[176] timing of income inclusion, and treatment of hybrid instruments. Questions of character and source that are important aspects of the taxation of financial instruments are not relevant in the financial accounting context, except to the extent that the character or source affects the reporting for income taxes associated with a financial instrument.

Because tax laws provide special rules as to whether certain items related to financial instruments are included in or excluded from income, some items either enter into pretax financial income but never into taxable income, or enter into taxable income but never into pretax financial income. Because the book/tax difference created by these items does not reverse over time, these items create "permanent differences".

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[175] In its "Report of the Financial Crisis Advisory Group" (July 28, 2009), p. 3, the Financial Crisis Advisory Group notes that in the earlier part of the 2008 financial crisis, the principal criticism of financial reporting focused on the impact of fair value accounting. Some argued that prior to the 2008 financial crisis, fair value accounting led to overstatement of profits. However, during the crisis, falling asset prices led to accounting write-downs. As capital adequacy standards are closely tied to accounting figures, the write-downs caused firms to convert some assets into Tier 1 capital assets (such as cash) to meet the standards. The increased selling of assets exacerbated the fall in the prices for those assets. However, the staff of the SEC observed that fair value accounting did not appear to play a meaningful role in bank failures occurring during 2008. Rather, bank failures in the United States appeared to be the result of growing probable credit losses, concerns about asset quality, and, in certain cases, eroding lender and investor confidence. For the failed banks that did report sizable fair value losses, it does not appear that the reporting of these losses was the reason the banks failed. See SEC, Office of the Chief Accountant, Division of Corporation Finance, *Report and Recommendations Pursuant to Section 133 of the Emergency Economic Stabilization Act of 2008: Study on Mark-to-Market Accounting* (Release No. 33-8975), December 30, 2008.

[176] For example, see section 103 for exclusion of interest on state and local bonds, and sections 243-246A for deductions for dividends received by corporations.

When a firm receives interest on state and local bonds that generate tax-exempt interest, the interest income is included in financial statement income, but it does not enter into the computation of taxable income, resulting in a permanent difference. When a firm subtracts allowable dividends-received deductions from taxable income, but not from pretax financial statement income, it results in permanent differences related to stock holdings for firms organized as corporations.[177]

Because tax laws and financial accounting standards differ as to when some items are recognized and how they are measured, items may be reported sooner or later or in different amounts on the tax return than in the financial statements. These items generally create "temporary differences," or differences between the tax basis and book basis of an asset or liability. Differences in the timing of gain or loss recognition produces temporary book-tax differences as, over the life of the instrument, the cumulative (nominal value of the) income or expense is the same for book income reporting and taxable income computation purposes.

Temporary differences generally do not affect the total nominal amount of tax liability reported by a corporation for the year. However, temporary differences do affect the amount of cash taxes paid by the corporation for a given year. To keep the total tax expense constant, firms accrue tax expense (or benefit) to reflect the portion of the year's tax expense which will be paid (or refunded) in a future year. This accrual is known as deferred tax expense (or benefit) and results in an asset (or liability) on the firm's balance sheet. These balance sheet items are referred to as deferred tax assets and deferred tax liabilities.

As discussed above, all derivatives and many types of debt and equity holdings are recorded at fair value for financial reporting purposes, with unrealized gains and losses reported in current earnings. In contrast, present tax law largely requires gains and losses to be recognized at the time of realization and provides for mark-to-market treatment in limited circumstances.[178] These differences in the timing of income recognition create temporary differences on the financial statements.

Hybrid instruments are more often required to be bifurcated into separate debt and equity components for book purposes than for tax purposes. However, the Federal income tax rules generally treat an instrument as all debt or all equity.[179] Differences in the classification of instruments give rise to both temporary and permanent differences.[180]

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[177] For examples of these permanent differences, see Christopher H. Hanna, Mark R. Martin, Michael J. Donohue, E. Daniel Leightman, and Cym Lowell, *Corporate Income Tax Accounting* (2011 Edition), Thomson Reuters/WG&L, 2010, pp. 4-7 to16.

[178] See, *e.g.*, secs. 475, 1256, and 1296.

[179] Although in 1989, Congress gave Treasury regulatory authority under section 385 to treat an interest in a corporation as part debt and part equity, no regulations have been promulgated.

[180] Prior to the issuance of SFAS No. 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity* (now ASC 480-10) in 2003 (which required certain financial instruments with characteristics of debt and equity to be treated as liabilities), a number of firms issued instruments

Example 6: purchase of equity.−Assume a firm purchased 10 shares of XYZ for $100 per share, for a total investment of $1,000. Assume the investment does not enable the firm to exert significant influence over XYX. At the end of year one, the share price is $110 per share. During year two, the firm sells its shares for $110 per share.

For financial accounting purposes, in year one, the firm reports $100 of income ($10 increase in share price, multiplied by 10 shares). However, for tax purposes, gain or loss is not recognized until the time of sale of the shares. Consequently, no cash taxes are paid in year one. In year one, the firm accrues a deferred tax expense of $35 ($100 gain multiplied by the 35-percent statutory tax rate). In year two, the firm recognizes the $100 gain ($10 increase in share price, multiplied by 10 shares) for tax purposes when the shares are sold. The firm records a current tax expense of $35 ($100 gain multiplied by the 35-percent statutory tax rate), but also records a deferred tax benefit of $35 to reverse the deferred tax expense accrued for this item in year one. Thus, in year two, the $35 current income tax expense is offset against the $35 deferred tax benefit, resulting in income tax expense of zero for financial reporting purposes in year two.

Although the gain is not recognized for tax purposes until year two, the income tax expense associated with the gain is reported for financial reporting purposes in year one, the same time that the gain is reported for financial reporting purposes. In addition, the nominal amount of the tax liability associated with the gain, $35, is the same for tax purposes and financial reporting purposes over the two year period that the instrument is held.

Example 7: purchase of a hybrid instrument.−Assume a firm receives proceeds of $100 for issuing convertible debt with a conversion feature with a stated principal amount of $100. The debt is convertible into four shares of the firm's stock. On the date of issuance, the firm's stock has a fair market value of $30 per share. The conversion feature is in-the-money on the date of issuance because the fair market value of the stock into which the security is convertible is worth $120 ($30 per share multiplied by four shares), while only $100 in proceeds were received. Thus, the value of the conversion feature is $20, equal to the difference between the $120 fair market value of the firm's stock into which the debt is convertible and the $100 proceeds the firm received for issuing the convertible debt.

For financial reporting purposes, the convertible debt is required to be bifurcated between its debt and equity components because the conversion feature is in-the-money on the date the convertible debt is issued. The value of the conversion feature of $20 is recorded as equity (paid-in capital). The firm records the remaining proceeds received of $80 ($100 proceeds less $20 allocated to equity) as a liability on the balance sheet. Because the convertible debt has a par value of $100, but is allocated basis of only $80, a $20 discount is recorded for the difference between the $100 par value and the $80 liability. As the $20 discount is amortized, additional interest expense is reported and earnings are reduced for financial reporting purposes.

(*e.g.* Trust Preferred Securities) in which the firm treated the payments on the instruments as interest for tax purposes but distributions on equity for financial accounting purposes. The firm deducted the interest for tax purposes, but did not report interest expense for financial reporting purposes. Such treatment created a permanent difference between taxable income and pretax financial income that was favorable to the firm.

For tax purposes, the convertible debt is treated entirely as a liability. The tax basis in the convertible debt is $100, resulting in a basis difference in the instrument between book and tax of $20 ($80 book basis compared to $100 tax basis).[181] This basis difference is treated as a temporary income tax difference for financial reporting purposes. The firm records a deferred tax liability of $7, equal to the basis difference of $20 multiplied by the 35-percent statutory tax rate. The GAAP rules further provide that this initial deferred tax liability of $7 is charged directly to the equity section of the balance sheet, and thus does not reduce earnings. However, after the initial deferred tax liability is recorded, the firm is required to record deferred tax expense (benefit) for changes in the difference in the book and tax basis, multiplied by the applicable tax rate, which may decrease (increase) earnings reported.

[181] There is also a book/tax basis difference in the equity instrument of $20. However, the accounting standards only consider basis differences for assets and liabilities. Differences in equity do not give rise to a temporary difference.

IV. DISCUSSION OF SELECTED TAX ISSUES

The following is a discussion of selected Federal income tax rules and issues related to the basic principles outlined above, including the characterization of financial instruments and the timing, character, and source of income related thereto. Several of the selected legislative rules were enacted in response to perceived issues presented by the application of the existing rules to a particular transaction or instrument. For existing tax rules, the discussion presents an example of the issue that prompted enactment of the rule. For specific financial instruments, the discussion highlights some of the Federal income tax issues they present.

A. Issues Related to the Categorization of an Instrument

Hybrid instruments with features of both debt and equity

There is no bright-line definition that distinguishes debt from equity for Federal tax purposes.[182] Instead, the characterization of a particular instrument depends on a consideration of the terms of the instrument and all the surrounding facts and circumstances, analyzed in terms of economic and practical realities. A substantial body of common law has developed numerous factors to consider in such an analysis.

Between the extremes of an instrument that is clearly debt for tax purposes (generally considered an unqualified promise to pay a sum certain on a specified date with fixed interest) or clearly equity (generally considered an investment representing risk capital entirely subject to the fortunes of the venture), taxpayers have the ability to create a practically unlimited variety of instruments incorporating both debt- and equity-like features. Instruments that blend features of debt and equity are commonly referred to as hybrid instruments. The variety of these hybrid instruments is limited only by the ingenuity of taxpayers (and their advisors) and the contexts in which a hybrid instrument may be useful.

Hybrid instruments give rise to tax issues beyond the fundamental issue of whether the instrument is best treated as debt or as equity. Once the instrument is determined to be either debt or equity for tax purposes, the instrument's hybrid features can affect the results under applicable tax rules. The tax treatment of a hybrid instrument can depend on relatively slight differences in the terms of the instrument. For example, an instrument that is treated as debt rather than equity for tax purposes, but which has some equity-like features, can be treated quite differently under tax rules requiring interest accrual than is a fairly similar debt instrument with slightly different equity-like features.

The magnitude of the difference in tax treatment may not match the magnitude of the difference in the economics of somewhat similar hybrid instruments. This is illustrated in the following examples of several debt instruments with differing equity-like features under the OID rules. Different forms of contingent convertible debt have been used to give equity-like returns to holders while allowing debt-like interest deductions for the issuer. A further illustration is the

[182] For additional analysis, see Joint Committee on Taxation, *Present Law and Background Relating to Tax Treatment of Business Debt* (JCX-41-11), July 11, 2011.

tax treatment of feline PRIDES.[183] Feline PRIDES are an example of an instrument that combines a debt instrument with an agreement to buy the issuer's stock in the future. Such instruments are intended to allow issuers to currently monetize the value of their common stock while providing the issuer interest deductions. Also described below are convertible preferred equity certificates, or CPECs, which illustrate the differences in tax treatment of the same instrument under the laws of different countries in a cross-border context. CPECs, as used by taxpayers in foreign tax planning, are designed to be treated as debt for Luxembourg tax purposes but equity for U.S. tax purposes.

Debt with equity conversion features

Certain contingent convertible debt compared to other instruments

Debt instruments can be issued with rights to obtain stock of the debt issuer (known as convertible debt). If stated interest on the instrument is treated as insufficient under the tax rules, the tax rules impute interest over the life of the instrument (original issue discount, or OID), generally measured by the difference between the issue price of the instrument and the stated redemption price at maturity.[184]

Certain debt instruments issued with economically similar rights to obtain stock of the issuer are treated differently from each other under the OID rules depending on how the rights are structured. These differences affect the amount and timing of the issuer's current interest deduction, as well as the holder's inclusions. A comparison of these instruments provides an example of the different tax treatments that can be achieved depending upon the form chosen for an instrument.[185]

For example, an issuer might issue an investment unit consisting of a debt instrument plus a warrant to acquire the issuer's stock. The unit might be issued for a price equal to the amount payable at the maturity of the debt instrument. In this case, the warrant is treated as a separate property right under the OID rules and the issue price is allocated between the debt instrument and the warrant, based upon the relative fair market values at the time of issuance. Accordingly, a portion of the issue price is allocated to the warrant and treated as the amount the investor paid to purchase the warrant. Because in this example the issue price allocated to the debt instrument is reduced by the amount allocated to the warrant, the issue price is below the

[183] Feline PRIDES is the name of an instrument designed by Merrill Lynch as a modification of another Merrill Lynch product, PRIDES. "PRIDES" is an acronym for preferred redeemable increased dividend equity securities. "Feline" is an acronym for flexible equity-linked exchangeable security. Like other hybrid instruments, different investment bank creators have different names for similar instruments. For example, Morgan Stanley created PEPS, and Citigroup created "upper DECS."

[184] The OID rules are described in section II.A.2., relating to debt, and IV.B.

[185] See generally David C. Garlock, *Federal Income Taxation of Debt Instruments*, CCH, 2010, Paragraphs 901-908 and 1001. For simplicity, the examples in the text above assume that the referenced debt instrument and equity of the issuer are publicly traded.

amount payable at maturity. Consequently, the debt instrument has OID that is created by reason of the warrant.[186]

As another example, a single debt instrument can be issued that is itself convertible into, or exchangeable for, stock of the issuer. Again, this convertible instrument may be issued for a price that is the amount payable at maturity of the instrument. Under the regulations, none of the purchase price of the instrument is allocated to the value of the conversion feature. In this case, since the instrument was issued for a price that is the amount payable at maturity, no OID is created by reason of the convertibility feature.[187]

As a third example, an instrument can be issued that is convertible into stock of the issuer in the event of a contingency (*e.g.*, if the instrument's market price exceeds a certain dollar amount) [188] and the contingency is not remote or incidental. In this case, the IRS has ruled that the comparable yield of the instrument is determined based on the yield of a comparable instrument that is not convertible, in other words, based on the yield of an instrument that does not offer the holder a conversion right and without adjustment for the existence of the conversion feature.[189] As in the prior two cases, the conversion right has value for which an investor would pay. An investor would require a lower yield (apart from the value represented by the equity conversion right) on an instrument with such an equity feature than on an instrument without such a feature. Allowing the market yield on a nonconvertible instrument to determine the yield of the issued instrument results in a greater yield to maturity. Hence, there is more OID on this instrument than on the instruments in either of the prior examples.

Depending on the terms of the warrant in the first example, the point at which a fixed conversion price on a convertible debt is set in the second example, or the conditions of the contingency in the third example, the instruments could be economically very similar.[190]

The IRS has issued a notice requesting comment on whether the treatment of the various types of instruments should be more closely conformed in whole or in part.[191] Commentators have debated the issue.[192]

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[186] Sec. 1273(c)(2)(B); see also *Custom Chrome v. Commissioner*, 76 T.C.M. 386, *aff'd in part and rev'd in part*, 217 F. 3d 1117 (9th Cir. 2000).

[187] Treas. Reg. sec. 1.1273-2(j).

[188] The market price of the instrument would reflect the value of the combined debt and equity features of the instrument.

[189] Rev. Rul. 2002-31, 2002-1 C. B. 1023.

[190] In addition, an issuer could issue debt and warrants separately, in which case each instrument could be analyzed with results comparable to the investment unit example. See David C. Garlock, *op cit,* at Par. 1001.07.

[191] Notice 2002-36, 2002-1 C.B. 1029.

[192] See, *e.g.*, David P. Hariton, "Conventional and Contingent Convertibles: Double or Nothing," *Tax Notes* vol. 96 no. 1, July 1, 2002, p. 123; Jeffrey Strnad, "Taxing Convertible Debt," 56 *Southern Methodist*

Feline PRIDES

Feline PRIDES are a complex instrument sold by an issuer to raise capital. For Federal tax purposes, the issuer seeks to effectively issue stock (without doing so currently) while generating current interest deductions.[193] The following simplified description of feline PRIDES is based on the facts of Revenue Ruling 2003-97 in which the IRS ruled that interest accruing on a feline PRIDES-like instrument was deductible for tax purposes.[194]

Feline PRIDES are two instruments packaged together into a single investment unit. The instrument consists of a three-year forward contract to purchase the issuer's common stock and a five-year note paying interest. The forward contract obligates the holder to purchase, and the issuer to sell, an amount of the issuer's common stock in three years. The amount of common stock to be purchased is determined by reference to the market price of the stock on the settlement date three years in the future. The note obligates the issuer to pay a sum certain in five years. The five-year note serves as collateral for the holder's obligation under the forward contract. The issuer of the single purchase-contract/note unit allocates the aggregate amount paid between the forward and the note as if the instruments were in fact separately issued. The amount allocated to the note is the stated principal amount of the note.

While issued to holders as a single instrument, a critical feature of the instrument for its Federal tax classification is that the two parts are separable. Although the holder pledges the five-year note as collateral for its obligation under the three-year forward contract, the holder may legally separate the note and the forward by posting new collateral for the purchase contract (*e.g.*, Treasury securities). The holder could then dispose of either the note or the forward contract, or both. Another critical feature of the instrument is that the issuer agrees to remarket the notes periodically, meaning that the issuer will attempt to resell the notes in the market. If a remarketing is successful, the proceeds of the remarketing are used by the holder to satisfy the forward purchase obligation, rather than the note itself (as collateral).

Treatment of the combined purchase-contract/note unit is not entirely clear for Federal tax purposes because the two contracts are linked. Revenue Ruling 2003-97 notes a number of possible characterizations. For purposes of illustrating a critical debt/equity issue, assume the combined unit were treated for Federal tax purposes as a single instrument properly classified as debt.

University Law Review, 2003, p. 399; Jeffrey Strnad, "Laboring in the Pin Factory: More on Taxing Convertible Debt," 56 *Southern Methodist University Law Review*, 2003, p. 471; Dana L. Trier and Lucy V. Farr, "Rev. Rul. 2002-31 and the Taxation of Contingent Convertibles, Parts 1 and 2," *Tax Notes* vol. 95 no. 13, June 24, 2002, p. 1963 and *Tax Notes* vol. 96 no.1, July 1, 2002, p. 105; Edward D. Kleinbard, Erika W. Nijenhuis and William L. McRae, "Contingent Interest Convertible Bonds and the Economic Accrual Regime," *Tax Notes* vol. 95 no. 13, June 24, 2002, p.1949; Edward D. Kleinbard, "Taxing Convertible Debt: A Layman's Perspective," 56 *Southern Methodist University Law Review*, 2003, p. 453.

[193] As described in greater detail below, the holders of feline PRIDES are not current shareholders for corporate law purposes, but do have an obligation to perform on a contract to purchase stock in the future.

[194] Rev. Rul. 2003-97, 2003-2 C.B. 380 (July 24, 2003).

Section 163(l) generally disallows a deduction for interest on a debt instrument issued by a corporation that is payable in equity of the issuer. The section was enacted by the Taxpayer Relief Act of 1997[195] in response to Congressional concern that corporate taxpayers could issue instruments denominated as debt, but that more closely resembled equity for which an interest deduction is not appropriate. Debt is treated as payable in equity under section 163(l) if a substantial amount of the principal or interest is mandatorily convertible or convertible at the issuer's option into such equity. A debt instrument also is treated as payable in equity if it is part of an arrangement that is reasonably expected to result in payment on the debt instrument with or by reference to such equity, such as in the case of certain issuances of a forward contract in connection with the issuance of debt.[196]

One might think that the purchase-contract/note unit would be subject to section 163(l) because at maturity, the holder will effectively have paid the principal amount in exchange for stock of the issuer. However, feline PRIDES have features that are designed to prevent application of section 163(l). For example, a feline PRIDES issuer agrees to remarket the notes, and to use the proceeds of a successful remarketing to satisfy the forward contract while the note remains outstanding. If the forward contract is satisfied in year three and the notes remain outstanding in the hands of another holder until year five (at which time the issuer is obligated to pay off the notes in cash), it is more difficult to conclude that the note is payable in equity.

Cross-border hybrids: CPECs

It is possible for taxpayers to design instruments that are treated differently for foreign and U.S. tax purposes. These instruments are often used within a multinational group to accomplish foreign or U.S. tax base erosion or to engage in foreign tax credit planning.[197] Such instruments may also be used by investors (*e.g.*, investment funds) making cross-border investments. One such example is a CPEC, a hybrid financing instrument designed to be regarded as debt of a Luxembourg issuer from a Luxembourg tax perspective,[198] but equity from a U.S. tax perspective.[199] Typical features of a CPEC include a 49-year term; a fixed annual interest rate computed based on the "arm's-length" principle, taking into consideration their conversion feature; convertibility into shares of the issuer at a fixed ratio established upon the issuance of the CPEC; an ability to be redeemed at fair market value under certain conditions;

[195] Pub. L. No. 105-34.

[196] Sec. 163(l)(3)(C).

[197] The ability to use hybrid instruments to engage in foreign tax credit planning was significantly curtailed with the enactment of Code section 909. Pub. L. No. 111-226, sec. 211. Prior to enactment of section 909, hybrid instruments treated as debt for foreign tax purposes and as equity for U.S. tax purposes were used to help facilitate certain "foreign tax credit splitter" transactions where creditable foreign taxes were separated from the underlying foreign earnings and profits.

[198] Although the IRS will typically not issue a private letter ruling, it is not uncommon for issuers of CPECs to obtain a ruling from Luxembourg tax authorities confirming the treatment of CPECs as debt.

[199] Profit participating loans are another example of a hybrid instrument that may be treated as debt in Luxembourg and certain other foreign jurisdictions while being treated as equity from a U.S. tax perspective.

transferability by the holder only with the simultaneous transfer of an equivalent portion of the holder's shares of the issuer; subordination to other debt; and no voting power.

Because CPECs are treated as debt for Luxembourg tax purposes, interest expense may be imputed on CPECs resulting in Luxembourg tax deductions. Interest paid to the holder of the CPECs is generally exempt from Luxembourg gross withholding tax. From a U.S. perspective, assuming the holder is treated as owning equity, any interest imputed on a CPEC for Luxembourg tax purposes does not result in corresponding imputed interest income in the United States. Equity holders typically owe U.S. tax on dividend income only when declared and paid. In addition, CPECs are convertible into common shares and under certain circumstances are redeemable. Because conversion or redemption is typically carried out at the fair market value of the shares at the time of the conversion or redemption, holders are able to extract appreciation in the issuer in a tax efficient manner. If the Luxembourg company has appreciated in value, the CPEC holder exchanges CPECs for appreciated stock. From a Luxembourg perspective, a conversion is not a dividend subject to withholding, and from a U.S. holder's perspective, the exchange may qualify for a preferential rate of tax as qualified dividend income or the sale or exchange of a capital asset.[200]

[200] Since CPECs also are treated as equity in certain foreign jurisdictions, CPECs may also be used to facilitate cross-border arbitrage between Luxembourg and other foreign jurisdictions.

B. Issues Related to Timing

When an amount is included in income (or expense) can affect a taxpayer's tax liability. While the type of entity and financial instrument selection can often be used to achieve more favorable tax results, legislative changes have addressed some perceived abuses with respect to timing. The following discussion outlines a few of these instances and the corresponding rules.

1. Deferral of income

Original issue discount

Background

Original issue discount is a term generally used to describe the measurement and timing of interest income and expense related to debt instruments (*e.g.*, loans). For example, it is generally accepted that "[t]he $6 earned on a one-year note for $106 issued for $100 is precisely like the $6 earned on a one-year loan at 6 percent stated interest."[201] Similarly, a $100 note issued for $94.34 is the same as a one-year loan with a 6 percent interest discount. While the basic principle was widely recognized, the lack of detailed rules led to perceived abuses.

Under prior law, the issuance of debt instruments at a discount resulted in timing differences. For instance, assume a loan is issued at a discount whereby the holder (borrower) is given less money up front than is due the issuer (lender) at maturity. The borrower is an accrual basis taxpayer (*e.g.*, corporation) and the lender is a cash basis taxpayer (*e.g.*, individual). The borrower accrues interest expense over the period of the loan. Conversely, the lender does not recognize interest income until the debt instrument is sold or exchanged. This resulted in a mismatch of when the income and expense were included in the taxpayers' computations of tax liability.

To prevent future mismatches of income and expense, Congress enacted rules requiring the issuer and holder (including successors) to measure the amount of the discount using identical rules and to recognize such amounts currently, regardless of the taxpayer's overall method of accounting.[202]

Present law

For debt instruments issued with a discount at origination, section 1272 requires the borrower to include amounts in income for each day of the tax year that corresponds to the daily discount received.[203] Rather than include the full amount of the OID income at the time the

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[201] *U.S. v. Midland-Ross Corporation*, 381 U.S. 54, 58 (1965).

[202] Prior to the enactment of section 1272 in 1984, the rules for OID were found in section 1232.

[203] Section 1272 does not apply to tax exempt obligations, U.S. savings bonds, short-term obligations, obligations issued prior to date of enactment (March 2, 1984), or loans between natural persons. See sec. 1272(a)(2).

contract is entered into, the taxpayer recognizes such amounts ratably over the term of the debt. The lender expenses a corresponding daily amount as interest expense.[204]

Similarly, convertible bonds are treated like basic debt instruments (*e.g.*, loans) until conversion. The holder of the bond includes stated interest in income in accordance with its overall method of accounting (*i.e.*, cash or accrual) and any amounts associated with the OID as it accrues. The issuer of the bond generally deducts accrued interest and OID until the date of conversion, even if such amounts are never paid. The conversion of the convertible bond into the issuer's stock ("converted stock") is a nontaxable event.[205] Upon ultimate sale of the converted stock, income is recognized consistent with the treatment for stock transactions generally.

Constructive sales

Background

The recognition of gain or loss may be postponed for open transactions. For example, in the case of a short sale (*i.e.*, when a taxpayer sells borrowed property such as stock and closes the sale by returning identical property to the lender), no gain or loss on the transaction is recognized until the closing of the borrowing.

Under prior law, transactions designed to reduce or eliminate risk of loss on financial assets often did not constitute realization events. For example, a taxpayer could lock in gain on securities by entering into a "short sale against the box" transaction, that is, when the taxpayer owns securities that are the same as, or substantially identical to, the securities that are borrowed and sold short. Thus, the Code provided rules to prevent taxpayers from using short sales against the box to convert short-term capital gain into long-term capital gain or long-term capital loss into short-term capital loss. However, prior law did not prevent taxpayers from deferring the recognition of gain on an appreciated financial position while locking in the built-in gain. This result was attained because the creation of the short position results in any future increase or decrease in the market price of the underlying asset (up to whatever the taxpayer shorted) being perfectly offset within the taxpayer's portfolio. When both positions were ultimately unwound in the taxpayer would recognize the accrued gain that existed on the date on which the short position was opened.[206]

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[204] Section 163(e).

[205] Treas. Reg. section 1.1001-3(c)(2)(ii) and Rev. Rul. 72-265, 1972-1 C.B. 222.

[206] One widely reported example of such a transaction involved the 1995 initial public offering of the Estee Lauder Companies. Estee Lauder and her son, Ronald Lauder, were significant shareholders in the Estee Lauder Companies prior to the company's initial public offering ("IPO"). Had the two simply sold their shares to the public in the IPO, they would have had to pay tax on the difference between the offering price ($26 per share) and their adjusted basis in the stock for the year of the sale. Rather than sell their own shares, Estee and Ronald Lauder went short against the box in an effort to defer, and potentially eliminate, any tax on the disposition of their shares. In connection with the IPO, the Lauders borrowed Estee Lauder Companies stock from family members and sold these borrowed shares to the public. Because gain or loss on the short sale of stock is deferred until the short sale is

In 1997, section 1259 was enacted, requiring the recognition of gain related to certain appreciated financial positions.[207]

Present law

For a holder or issuer of appreciated financial positions, the rules relating to constructive sales under section 1259 can require gain to be recognized as if the financial positions were sold. A taxpayer is considered to have made a constructive sale with respect to a financial position if the taxpayer or related person enters into: (1) a short sale of the same or substantially identical property; (2) an offsetting notional principal contract with respect to the same or substantially identical property; (3) a futures or forward contract to deliver the same or substantially identical property; or (4) one or more transactions (or acquires one or more positions) that have substantially the same effect as a transaction previously described and included in Treasury regulations.[208]

2. Acceleration of losses

Wash sales

Background

A wash sale occurs when a taxpayer sells a security (*e.g.*, stock, bond, option) at a loss and replaces the security by purchasing the same or a substantially identical security shortly before or after the sale transaction. Without the wash sale rules under section 1091, a taxpayer could recognize a tax loss without realizing an economic loss. This is because the taxpayer would own the same or a substantially identical security after the sale as before the sale. To prevent taxpayers from recognizing losses associated with the sale of investments that are immediately replaced such that the underlying economics are not altered, the wash sale rules under section 1091 were enacted.

Present law

Section 1091 defers the recognition of losses associated with the sale of shares of stock or securities if the taxpayer acquires, or enters into an option contract to acquire shares of

closed, the Lauders could defer the tax due on the IPO until they delivered their own shares to close the short position. Moreover, if the Lauders died before closure of the short sales, it was possible for the short positions to be closed with stock the basis of which would be equal to its fair market value, thus eliminating any gain on the short sale. See, *e.g.*, Allan Sloan, "Lauder Family's Stock Maneuvers Could Make a Tax Accountant Blush," *The Washington Post* (Nov. 28, 1995); Laura Jereski and Laura Bird, "Beauty Secrets: Ronald Lauder's Debts and Estee's Old Age Force a Firm Makeover." *Wall Street Journal* (Nov., 8, 1995), p. A1; Lee A. Sheppard, "News Analysis: Fixes to Ensure that Tax is Paid on Capital Gains," *Tax Notes*, vol. 69 (Dec. 4, 1995), pp. 1165 - 1168.

[207] Taxpayer Relief Act of 1997, Pub. L. No. 105-34, sec. 1001(a).

[208] Sec. 1259.

substantially similar stock or securities within 30 days before or after the date of the loss transaction.

C. Issues Related to Character

Taxpayers may have incentives to convert what would otherwise be an ordinary gain into a capital gain or a capital loss into an ordinary loss depending on their tax profile. For example, because the capital gains of individuals may be taxed at lower tax rates than their ordinary income, an individual benefits from the conversion of an ordinary income item into a capital gain. Conversely, the capital losses of an individual may generally be used only to the extent of capital gains. Up to $3,000 of any excess capital loss may be used to offset ordinary income, but the balance must be carried forward to future tax years. Accordingly, a taxpayer with no capital gain facing a large capital loss would benefit from converting the capital loss to an ordinary loss that could be used to offset ordinary income (*e.g.*, wage income). Taxpayers have devised a variety of ways to convert the character of gain and loss items. The following discussion outlines a few of the special rules designed to limit these conversion opportunities.

1. Conversion of short-term gain into long-term gain

An exception to the general rules for classifying gain or loss applies under section 1233 for short sales. In addition to providing general guidance for the holding periods of short sale transactions, these rules were enacted to prevent taxpayers from converting short-term gains into long-term gains and long-term losses into short-term losses.

In a short sale of stock, for example, a person sells more shares of stock than he owns at the time of sale. It is as if the seller has borrowed stock in order to sell. In order to complete the sale, the seller must acquire additional shares to deliver.

Under section 1233, if between the time the short sale is entered into and closes, the stock borrower owns, or acquires stock that is substantially identical to the stock that is sold short, and has owned such stock for a not more than one year, any gain (but not loss) is recognized upon the closing of the short sale is short-term.[209] Additionally, the holding period for substantially identical stock, acquired between the time the short sale is entered into and closes, begins on the earlier of the date the short sale is closed or the date the substantially identical stock is sold.[210] Conversely, if the stock borrower owns stock that is substantially identical to the stock that it sold short, and has owned that stock for more than a year, any loss (but not gain) recognized upon the closing of the short sale is long-term.[211]

[209] Sec. 1233(b)(1) and Treas. Reg. sec. 1.1233-1(c)(2).

[210] Sec. 1233(b)(1) and (2) and Treas. Reg. sec. 1.1233-1(c)(2) and (5).

[211] Sec. 1233(d) and Treas. Reg. sec. 1.1233-1(c)(4).

2. Conversion of capital to ordinary and vice versa

Background

The definition of a capital gain or loss in section 1222 requires that there be a sale or exchange of a capital asset. Courts have interpreted this requirement to mean that when a disposition is not a sale or an exchange, but rather, for example, a lapse or cancellation, the disposition produced ordinary income or an ordinary loss. This interpretation has applied even to dispositions that are economically equivalent to a sale or exchange of a capital asset.

Some taxpayers and tax shelter promoters attempted to exploit this ability to convert a capital item to an ordinary item. For example, a taxpayer might enter into a forward contract on a security, where the forward contract would constitute a capital asset in the taxpayer's hands. If the value of the forward contract increased (because the value of the underlying security increased), the taxpayer could sell the forward contract and report a capital gain. On the other hand, if the forward contract declined in value, the taxpayer would pay a fee to the counterparty to cancel the contract. Under case law prior to the enactment of section 1234A, a cancellation or extinguishment of the contract was not viewed as a sale or disposition and the taxpayer would report the loss as a fully deductible ordinary loss. Congress enacted Section 1234A to override, in some instances, the extinguishment doctrine which allowed some taxpayers effectively to choose the recognition of a capital gain or an ordinary loss with respect to a capital asset.[212]

Present law

Section 1234A generally provides that gain or loss attributable to the cancellation, lapse, expiration, or other termination of a right or obligation with respect to property which is (or on acquisition would be) a capital asset in the hands of the taxpayer is treated as gain or loss from the sale of a capital asset.[213] Thus, in the above example, the taxpayer would have a capital gain or loss regardless of whether the contract was sold or cancelled.

Unlike the character of the income recognized from options and forwards discussed above, which typically is determined with reference to the character of gains and losses that result from a taxpayer's transactions with respect to the underlying asset, the character of swap payments is not determined by the character of the underlying asset. Proposed regulations issued in 2004 under section 1234A clarify that any swap payment other than a termination payment

[212] Report of the Committee on Finance, United States Senate, on H.J. Res. 266, Economic Recovery Tax Act of 1981, S. Rep. No. 97-144, July 6, 1981, p. 170, in which the Finance Committee stated, "The Committee believes that the change in the sale or exchange rule is necessary to prevent tax-avoidance transactions designed to create fully-deductible ordinary losses on certain dispositions of capital assets, which if sold at a gain, would produce capital gains. The transactions already cause significant losses to the Treasury." See also Joint Committee on Taxation, *General Explanation of the Economic Recovery Tax Act of 1981* (JCS-71-81), December 29, 1981, pp. 313-314.

[213] This section also applies to section 1256 contracts. However, section 1234A does not apply to the gain or loss attributable to securities futures contracts, as defined in 1234B, or the retirement of any debt instrument.

generally constitutes ordinary income or expense.[214] This is consistent with the view that ongoing payments with respect to a swap or similar notional principal contract should be treated as ordinary income because these payments are not made with respect to a sale or exchange of a capital asset. Conversely, by application of section 1234A, gain or loss attributable to the termination of a swap contract should be capital if the contract is a capital asset in the hands of the taxpayer, and the proposed regulations clarify this point as well.[215]

[214] Prop. Treas. Reg. section 1.1234A-1.

[215] The proposed regulations treat any payment on a "bullet swap" or forward contract, including payments made pursuant to the terms of the contract, as termination payments for purposes of section 1234A. Prop. Treas. Reg. sec. 1.1234A-1(c). More recent proposed amendments to the income tax regulations under sections 1256 and 446 call into question this analysis. See the discussion in section III.A.5., above.

D. Issues Related to Source

The source of income related to a financial instrument may not always be clear. The source-of-income rules apply on a category by category basis, and income may have a different source for tax purposes if it is in one category rather than another. The source rules do not address the source of every type of income. The source of a taxpayer's income also may vary based on that taxpayer's status in the market. This section describes examples of sourcing challenges that arise from the category by category nature of source rules, the lack of a comprehensive definition of source, and the effect on sourcing of a taxpayer's role in the marketplace. As the first example illustrates, the flexibility of financial instruments produces sourcing challenges because economically equivalent instruments can be used to achieve different source outcomes.

1. Category of income conversion

A foreign investor seeking returns from the U.S. equity markets could purchase stock in U.S. companies. Dividends paid on this stock generally would be considered U.S. source and therefore would be subject to withholding tax at a 30-percent (or reduced treaty) rate.[216] Substitute dividend payments on stock of a domestic corporation, which a foreign investor could receive under a securities lending or sale-repurchase agreement, are U.S. source as well and are generally subject to U.S. withholding tax.[217]

Instead of actually owning the stock, a foreign investor can create synthetic ownership by holding an equity derivative contract. For example, a foreign investor might become a party to a total return swap under which returns to each party are based on the returns generated by a notional investment in a specified dollar amount of stock. The foreign party to this swap agrees for a specified period to pay to the counterparty (a) interest calculated at a market rate (such as LIBOR) on the notional amount of stock and (b) any depreciation in the value of the stock, and the counterparty agrees for the specified period to pay the investor (c) any dividends paid on the stock and (d) any appreciation in the value of the stock.[218] This swap is economically equivalent to a transaction in which the foreign investor actually purchases the stock from the counterparty, using funds borrowed from the counterparty, and at the end of the period sells the stock back to the counterparty and repaid the borrowing.

This equity swap has nearly identical economic characteristics to a leveraged purchase of stock except that the equity swap party has credit exposure to its swap counterparty. The tax

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[216] Secs. 861(a)(2)(A), 871(a)(1)(A), and 881(a)(1).

[217] Sec. 871(m)(2)(A), enacted in the Hiring Incentives to Restore Employment ("HIRE") Act, Pub. L. No. 111-147, sec. 541, as one category of a U.S.-source dividend equivalent. For purposes of the imposition of the 30-percent withholding tax, substitute dividend payments (and substitute interest payments) received by a foreign person under a securities lending or sale-repurchase transaction have the same character as dividend (and interest) income received in respect of the transferred security. Treas. Reg. secs. 1.871-7(b)(2), 1.881-2(b)(2).

[218] Amounts owed by each party under a total return swap typically are netted so that only one party makes an actual payment.

treatment of the foreign investor is different, however. Because the source of income from an equity swap (one type of a notional principal contract) is determined by reference to the residence of the recipient of the income, amounts representing dividends in this example are foreign source and therefore are not subject to U.S. withholding tax.[219] In the leveraged purchase transaction (a purchase of stock of a U.S. corporation using borrowed funds), by contrast, the foreign investor would receive actual dividends, and those dividends would be U.S. source and, therefore, generally would be subject to U.S. withholding tax.

To restrict foreign investors' use of notional principal contracts to avoid U.S. withholding tax that would be imposed on dividends received by those investors in respect of stock of U.S. companies, Congress legislated rules in 2010 that treat certain payments made under specified notional principal contracts as U.S.-source "dividend equivalent payments" subject to U.S. withholding tax.[220] A dividend equivalent includes any payment made under a specified notional principal contract that (directly or indirectly) is contingent upon, or determined by reference to, the payment of a dividend from sources within the United States. A dividend equivalent also includes any other substantially similar payment as determined by the Secretary.[221] For this purpose, a specified notional principal contract is any notional principal contract that has any one of the following five characteristics: (1) in connection with entering the contract, any long party to the contract transfers the underlying security to any short party to the contract; (2) in connection with the termination of the contract, any short party to the contract transfers the underlying security to the long party to the contract; (3) the underlying security is not readily tradable on an established securities market; (4) in connection with entering the contract, any short party to the contract posts the underlying security as collateral with any long party to the contract; or (5) the Secretary identifies the contract as a specified notional principal contract. For payments made more than two years after the date of enactment of the 2010 rules, all notional principal contracts are specified notional principal contracts unless the Secretary determines the contract is of a type that does not have the potential for tax avoidance. The Secretary has not yet made a determination.

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[219] Treas. Reg. sec. 1.863-7(b). For a presentation of hypothetical equity and interest rate swaps and stock lending transactions and a discussion of whether and when imposition of withholding tax might be appropriate, see David P. Hariton, "Equity Derivatives, Inbound Capital, and Outbound Withholding Tax," *Tax Lawyer* 60 (Winter 2007), 313. See also Jasper L. Cummings, Jr., "Equity Derivatives: If 1 + 1 Sometimes Does Not Equal 2, Can It Ever Equal 2?" *Corporate Tax Insights*, vol. 5, no. 19 (Oct. 9, 2007). Whether particular arrangements should be considered as ownership of stock of U.S. corporations rather than as contractual rights and obligations under notional principal contracts attracted attention when the Permanent Subcommittee on Investigations of the U.S. Senate Committee on Homeland Security & Governmental Affairs held a hearing related to cross-border notional principal contract, securities lending, and sale-repurchase transactions entered into or facilitated by certain investment funds and investment banks. See *Dividend Tax Abuse: How Offshore Entities Dodge Taxes on U.S. Stock Dividends*, S. Hrg. No. 110-778, 110th Cong., 2d Sess. (Sept. 11, 2008).

[220] HIRE Act, Pub. L. No. 111-147, sec. 541.

[221] As described in footnote 217, a dividend equivalent also includes any substitute dividend made under a securities lending or a sale-repurchase transaction that (directly or indirectly) is contingent upon or determined by reference to the payment of a dividend from U.S. sources.

2. Gaps in source rules

Source rules do not cover every kind of income. Disputes between the IRS and taxpayers arise when taxpayers treat income for which no source rule exists as having a certain source (foreign, for example) and the IRS asserts that the income has the opposite source (U.S.). In disputes over the appropriate source of particular items of income, courts have determined the source of the income by applying the source rule for the category of income to which the disputed income is most closely analogous, based on all facts and circumstances. For example, letters of credit commissions have been sourced by analogy to interest.[222] This section describes three other examples of sourcing by analogy.

Guarantee fees

Business entities often guarantee the obligations of related or unrelated entities under loans made to those other entities. The entities providing the guarantees typically receive fees for the guarantee. The Code has no rule for the source of income from guarantee fees.

In a 2010 case, the U.S. Tax Court rejected IRS arguments that fees paid by a domestic corporation to its foreign parent for guarantees issued by the parent for the debts of the domestic corporation were analogous to interest.[223] The Tax Court concluded that the payments were more closely analogous to compensation for services and determined that the source of the fees should be the place where guarantees were produced, which was the country of residence of the foreign parent-guarantor. As a result, the income was treated as income from foreign sources.

As a legislative override of the opinion in *Container Corp.,* Congress recently amended the source rules of section 861 and 862 to address income from guarantees issued after the date of enactment. Under new section 861(a)(9), income from sources within the United States includes amounts received, whether directly or indirectly, from a noncorporate resident or a domestic corporation for the provision of a guarantee of that U.S. resident's indebtedness.[224] The scope of the provision includes payments that are made indirectly for the provision of a guarantee. For example, the provision treats as income from U.S. sources a guarantee fee paid by a foreign bank to a foreign corporation for the foreign corporation's guarantee of indebtedness owed to the bank by the foreign corporation's U.S. subsidiary, where the cost of the guarantee fee is passed on to the domestic subsidiary through, for example, additional interest charged on the indebtedness.

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[222] *Bank of America v. United States*, 230 Ct. Cl. 679, 680 F.2d 142 (1982), *aff'g in part, rev'g in part*, 47 AFTR 2d 81-652 (Ct. Cl. 1981).

[223] *Container Corp. v. Commissioner*, 134 T.C. No. 5 (February 17, 2010), *gov't notice of appeal filed* (5th Cir. June 1, 2010).

[224] Small Business Jobs Act of 2010, Pub. L. No. 11-240, sec. 2122.

Life insurance proceeds

The Code has no rule for the source of income from a payment of proceeds on a life insurance contract. In 2009 the IRS considered the source of a foreign corporation's income from the proceeds of a life insurance contract covering the life of a U.S. resident.[225] In one of the fact patterns that the IRS addressed, B, a foreign corporation not engaged in a U.S. trade or business, purchased from A, a U.S. citizen and resident, a life insurance contract on the life of A for $20,000 with the intent of making a profit. The contract was originally issued by IC, a domestic corporation, to A in 2001. B made regular premium payments after buying the contract. A died in 2009, and IC paid $100,000 to B under the life insurance contract. B had paid monthly premiums totaling $9,000 to keep the contract in force. The IRS concluded that B must recognize $71,000 of income ($100,000 of proceeds less the $20,000 purchase price and $9,000 in premium payments) and that this amount was fixed or determinable annual or periodical income subject to U.S. withholding tax because it was U.S. source.

In concluding that the proceeds of the life insurance contract were U.S. source, the IRS considered the sourcing rules for interest (generally residence of the payor, with IC in the example a domestic corporation), for premiums received for the issuance of a life insurance contract (generally residence of the insured, with A in the example a U.S. resident), and for income from the sale of property (generally residence of the seller, with B in the example a foreign person). The IRS did not state which analogy it was adopting in determining that the income in question was U.S. source.

Futures contracts

The Code does not provide rules for the source of income from trading in futures contracts, forward contracts, option contracts, and other instruments. Instead, Congress has directed the Treasury Secretary to prescribe necessary or appropriate regulations applying the source rules for personal property sales to income derived from trading in these derivative instruments.[226] Treasury has not issued regulations.

In the absence of rules addressing the source of income from trading in futures contracts, forward contracts, and options contracts, the source of this income may be determined by analogy to existing source rules for income from sales of personal property. In some circumstances the source results under the personal property sales source rules depend on the manner in which a taxpayer participates in the market – as, for instance, a trader or a dealer.

For example, assume a U.S. taxpayer enters into a cash-settled oil futures contract on the New York Mercantile Exchange to purchase 1,000 barrels of oil three months in the future. Assume the price of oil appreciates and the taxpayer has gain when the contract settles for cash. By analogy, the source of income from the futures contract might be the same as the source of income from an actual sale of 1,000 barrels of oil. If the taxpayer is acting as a trader in oil

[225] Rev. Rul. 2009-14, 2009-21 I.R.B. 1031 (2009).

[226] Sec. 865(j)(2).

futures and the barrels of oil would be personal property of the taxpayer, the source of the income from cash settlement under this analogy would be U.S. since the taxpayer is a U.S. resident. Does the answer differ if the U.S. taxpayer is an oil company trying to hedge its risk? In that case, the oil futures contract may be more analogous to inventory such that the source of income from cash settlement should be determined under the inventory property sales source rule, which is where the title to inventory property is passed. In this example of a cash-settled futures contract, though, there is no actual delivery of oil. The source outcome therefore might be different from the source result for income related to a futures contract that calls for delivery of the underlying property.[227]

[227] See *Zander & Cia, Ltd. v. Commissioner,* 42 U.S. Board of Tax Appeals 50 (June 13, 1940) (declining to apply the title passage rule in determining the source of a Brazilian corporation's income from trading in cash-settled futures contracts on the New York Coffee and Sugar Exchange).

E. When Issues of Timing, Character, and Source Intersect

1. Timing and character rules for section 1256 contracts and tax straddles

Background

In the early 1980s, Congress recognized rapid growth in the use of tax straddles to affect both the timing and character of income.[228] A straddle is generally defined as offsetting long and short positions with respect to personal property. Thus, for example, holding a futures contract to buy gold in one month and holding a futures contract to sell gold in a different month is a straddle because the two contracts offset each other: if the price of gold increases, the futures contract to buy gold increases in value while the contract to sell decreases in value. In the absence of special rules, it was possible for taxpayers to defer gains, accelerate losses, and convert the character of income. Use of straddles for tax sheltering was so widespread that it was blamed for distortions recognized in the commodities markets.[229]

A typical commodity futures straddle worked as follows. A taxpayer established a position with two commodity futures contracts, one to buy and one to sell a commodity (*e.g.*, for wheat), with equal prices (*e.g.*, $100,000). The two contracts were identical in every respect, except for the delivery months. Because a futures contract buyer does not pay the purchase price up front, the cost for entering these offsetting positions was instead only the initial margin required by the futures exchange. For offsetting contracts the initial margin requirement was quite low, as little as one percent of the contract prices, or $2,000 in this example.

With the position established, the taxpayer waited for the price of wheat to change. Regardless of whether the price of wheat increased or decreased, one contract would increase in value and the other would decrease by a like amount. At any time, the taxpayer could liquidate the loss by entering into the opposite futures contract for the same month. In order not to become exposed to subsequent changes in the price of wheat, the taxpayer simultaneously replaced the liquidated contract with another wheat contract for a third month. The taxpayer claimed the realized loss from the liquidated contract as a short-term capital loss for tax purposes. This loss could be used to offset a short-term capital gain in the year of the liquidation. However, the taxpayer could continue to hold the gain contract into the subsequent tax year, deferring the built-in gain for at least one tax year. If that contract remained in a gain position and the taxpayer held the contract for more than one year, he could then recognize the gain as long-term capital gain. Moreover, the taxpayer did not have to make any payment on the liquidated contract because his margin account, reflecting the offsetting positions, showed no net

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[228] Report of the Committee on Finance, United States Senate, on H.J. Res. 266, Economic Recovery Tax Act of 1981, S. Rep. No. 97-144, July 6, 1981, p. 146; and see Joint Committee on Taxation, *General Explanation of the Economic Recovery Tax Act of 1981* (JCS-71-81), December 29, 1981, p. 294.

[229] Report of the Committee on Finance, United States Senate, on H.J. Res. 266, Economic Recovery Tax Act of 1981, S. Rep. No. 97-144, July 6, 1981, p. 147; and see Joint Committee on Taxation, *General Explanation of the Economic Recovery Tax Act of 1981* (JCS-71-81), December 29, 1981, p. 283.

loss. In addition, because the taxpayer maintained a balanced position, he ordinarily was not required to post additional margin.

Thus, for the cost of posting a modest amount of collateral, taxpayers used basic financial instruments to defer gains, accelerate losses, and convert short-term capital gain to preferentially taxed long-term capital gain, and in some instances, to convert ordinary income into long-term capital gain.[230]

Prior to the Economic Recovery Tax Act of 1981,[231] the Code did not contain any special rules dealing with straddles in commodities or in futures contracts for commodities. In the case of a typical straddle in commodity futures contracts, neither the wash sale rules applicable to stocks or securities (section 1091, discussed above), nor the special short sales rules, preventing conversion of short-term gain to long-term gain or long-term losses to short-term losses, applied.

Present law

Section 1256 provides special timing and character rules for a contract identified as a section 1256 contract. Any gain or loss with respect to a section 1256 contract is subject to a mark-to-market timing rule. The character of gain or loss (if not otherwise ordinary) is determined under the 60/40 rule. That is, it is treated as long-term capital gain or loss, to the extent of 60 percent of the gain or loss, and short-term capital gain or loss, to the extent of the remaining 40 percent of the gain or loss regardless of the taxpayer's holding period.[232] Gain or loss is recognized upon the termination (or transfer) of a section 1256 contract, by offsetting, taking or making delivery, by exercise or by being exercised, by assignment or being assigned, by lapse, or otherwise, and is also generally treated as 60 percent long-term capital and 40 percent short-term gain or loss.[233] A taxpayer other than a corporation may elect to carry back its net section 1256 contract losses for three taxable years.[234]

A section 1256 contract is defined as any (1) regulated futures contract; (2) foreign currency contract; (3) nonequity option, (4) dealer equity option, and (5) dealer securities futures contract.[235] The term section 1256 contract does not, however, include (1) any securities futures contract or option on such a contract unless such contract or option is a dealer securities futures contract, or (2) any interest rate swap, currency swap, basis swap, interest rate cap, interest rate

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[230] Because of special rules for the taxation of Treasury bills, it was possible to use Treasury bill straddles to convert ordinary income (*e.g.*, salary and interest) into long-term capital gain. See Joint Committee on Taxation, *General Explanation of the Economic Recovery Tax Act of 1981* (JCS-71-81), December 29, 1981, pp. 308-310.

[231] Pub. L. No. 97-34.

[232] Sec. 1256(a)(3). This general rule does not apply to 1256 contracts that are part of certain hedging transactions or section 1256 contracts that but for the rule in section 1256(a)(3) would be ordinary income property.

[233] Sec. 1256(c)(1).

[234] Sec. 1212(c).

[235] Sec. 1256(b).

floor, commodity swap, equity swap, equity index swap, credit default swap, or similar agreement.[236]

Section 1256 resolves the timing and character issues presented by futures straddles by requiring the recognition of gain or loss on an annual basis and providing the 60/40 rule for character.

To address straddles involving actively traded personal property other than futures, the Economic Recovery Tax Act of 1981 also added section 1092. Section 1092 addresses straddle timing issues by allowing any loss realized on one or more positions in a straddle only to the extent that the amount of the loss exceeds the unrecognized gain (if any) with respect to one or more offsetting positions.[237] Any disallowed loss is carried over and treated as a loss sustained in the succeeding taxable year. Section 1092, and the regulations promulgated thereunder, address straddle character issues by preventing the conversion of short-term capital into long-term capital gain with special holding period rules[238] and character rules.[239]

Issues relating to tax treatment under section 1256

The existence of special timing and character rules for section 1256 contracts creates both incentives and disincentives for taxpayers to trade in section 1256 contracts and to characterize financial instruments as section 1256 contracts.

Individual taxpayers, for example, may find trading in section 1256 contracts favorable because of the 60/40 rule, notwithstanding the mark-to-market requirement. For instance, if a taxpayer's investment strategy does not generally involve holding assets for more than one year, trading in section 1256 contracts (rather than the underlying asset(s) directly) converts 60 percent of any gains into preferentially taxed long-term capital gain.

The 60/40 rule may be less attractive to a corporate taxpayer. Corporate taxpayers are not eligible for a reduced rate of tax on long-term capital gains and may use capital losses only to offset capital gains (not ordinary income). In addition, a corporate taxpayer's unused capital losses may only be carried back three years and forward five. Corporations are not so limited in their use of ordinary losses, and may generally carry ordinary losses back two and forward 20 years.

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[236] Sec. 1256(b)(2).

[237] Sec. 1092(a)(1). The special rules of section 1092 do not apply to hedging transactions (sec. 1092(e)), straddles composed entirely of section 1256 contracts (sec. 1256(a)(4)) or qualified covered calls (sec. 1092(c)(4)). Special rules apply for mixed straddles (generally, straddles composed of both section 1256 contracts and non-section 1256 contracts) and identified straddles (sec. 1092(a)(2)).

[238] Sec. 1092(b) and Treas. Reg. sec. 1.1092(b)-2T(a).

[239] Sec. 1092(b) and Treas. Reg. sec. 1.1092(b)-2T(b)(1).

Another factor affecting taxpayers' use of section 1256 contracts relates to provisions of legislation enacted in 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act,[240] related to swaps. That Act requires that certain swaps be cleared through a regulated clearing party and executed on a regulated exchange or swap execution facility. During Congressional consideration of the legislation, some commentators questioned whether those requirements might have the effect of causing such swaps to meet the definition of regulated futures contracts under section 1256(g) and therefore to be section 1256 contracts subject to mark-to-market treatment and the 60/40 rule.[241] A provision added to Dodd-Frank excludes certain swaps, caps, floors and similar agreements from the definition of a section 1256 contract.[242] The exclusion is intended to clarify the scope of section 1256 in response to the recharacterization of income as a result of increased exchange-trading of derivative contracts.[243]

Notwithstanding the addition of this exclusion from the definition of a section 1256 contract, some uncertainty regarding the scope of section 1256 persists.[244] In addition to potential issues raised by the enactment of Dodd-Frank, developments in the futures markets are testing the boundaries of the term "regulated futures contract" under section 1256. For example, futures contracts have been created with economic terms identical to bilateral interest rate swaps.[245] This uncertainty may create traps for the unwary, or alternatively, encourage aggressive tax planning by those taxpayers who find the tax results of section 1256 contracts attractive, as well as for those interested in avoiding the timing and character rules of section 1256. On September 15, 2011, however, the Treasury Department and the IRS issued a Notice of Proposed Rulemaking that would eliminate any overlap between NPCs and section 1256 contracts by treating any contract that is an NPC as not being a section 1256 contract.[246]

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[240] Pub. L. No. 111-203.

[241] See, *e.g.*, Erika W. Nijenhuis, "New Tax Issues Arising from Derivatives Reform," 127 *Tax Notes* 1235 (June 14, 2010) (published before the enactment of Dodd-Frank) and "New Tax Issues Arising From the Dodd-Frank Act and Related Changes to Market Practice for Derivatives," *Columbia Journal of Tax Law*, vol. 2, no. 1 (January 6, 2011) (a later version of the same article published after the enactment of Dodd-Frank).

[242] Sec. 1601 of Pub. L. No. 111-203, adding section 1256(b)(2)(B) to the Code.

[243] H.R. Conf. Rep. No. 517, 111th Cong., 2d Sess., p. 879 (2010).

[244] See, *e.g.*, Erika W. Nijenhuis, "New Tax Issues Arising From the Dodd-Frank Act and Related Changes to Market Practice for Derivatives," *Columbia Journal of Tax Law*, vol. 2, No. 1 (January 6, 2011) (discussing issues arising from Dodd-Frank and market developments).

[245] See, *e.g.*, Erika W. Nijenhuis, "New Tax Issues Arising From the Dodd-Frank Act and Related Changes to Market Practice for Derivatives," *Columbia Journal of Tax Law*, vol. 2, No. 1 (January 6, 2011), pp. 31-33 (discussing cleared interest rate swaps and interest rate swap for futures exchange transactions) and International Derivatives Clearinghouse website, http://idcg.com/idch/index.html (offering "market participants the ability to replace existing bilateral interest rate swap contracts with economically equivalent listed" swap futures contracts).

[246] Notice of Proposed Rule Making, Fed. Reg. vol. 76, no. 180, p. 57684 (proposed amendments affecting the scope of the term "section 1256 contract" and addressing the definitions in the notional principal contract regulations under section 446).

2. Constructive ownership transactions under section 1260

Background

An entity taxable as a partnership is generally treated for Federal income tax purposes as a passthrough entity and is not such to Federal income tax at the entity level. Rather, each partner includes its share of partnership income, gain, loss, deduction, or credit in determining the partners' taxable income. Generally, the character of items of income, gain, and loss is determined at the partnership level. The Code also provides for other types of entities that allow for passthrough of character and that are either not subject to tax at the entity level,[247] or that may reduce or eliminate the entity level tax,[248] if applicable requirements are met.

Under the law in effect prior to the enactment of section 1260 in 1999, and recognizing that derivative contracts can be used to generate the same or similar economic benefits as owning property directly but with potentially different tax consequences, taxpayers used derivative contracts with respect to partnerships and other passthrough entities both to defer and to convert the character of income and gains.

One example of a transaction involving derivatives and passthroughs that purported to convert the character of income is as follows. Assume that a taxpayer enters into an arrangement with a securities dealer whereby the dealer agrees to pay the taxpayer any appreciation with respect to a notional investment in a hedge fund taxable as a partnership in three years time. In return, the taxpayer agrees to pay the securities dealer any depreciation in the value of the notional investment at such time. Under the arrangement, the taxpayer is in substantially the same economic position as if he owned the interest in the hedge fund directly. However, the taxpayer is not required to include items of partnership income or gain in income as earned by the hedge fund partnership, thus deferring the payment of tax on those amounts. In addition, if the taxpayer holds the contract until settlement, and if the partnership interest would be a capital asset in the hands of the taxpayer, then regardless of the character of income and gain allocated to actual partners over the three year period, the taxpayer with a derivative on the partnership could treat any appreciation resulting from the contractual arrangement as long-term capital gain.[249]

Present law

Under section 1260, gain from a constructive ownership transaction with respect to any financial asset that would otherwise be treated as long-term capital gain is recharacterized as ordinary income to the extent that the gain exceeds the aggregate net capital gain the taxpayer

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[247] See, *e.g.*, subchapter S corporations.

[248] See, *e.g.*, real estate investment trusts and regulated investment companies.

[249] Section 1234A and Prop. Treas. Reg. sec. 1.1234A-1(b). Prop. Treas. Reg. sec. 1.1234A-1(c). Proposed amendments to the income tax regulations under sections 1256 and 446 call into question this analysis. See discussion in section III.A.5. above.

would have had if the financial asset had been acquired, taking into account only gains and losses from such deemed ownership. The amount of capital gain thus treated as ordinary income is then subject to an interest charge reflecting the deferral of the gain recognition. A constructive ownership transaction is defined to include any circumstance in which a taxpayer (1) holds a long position under a notional principal contract with respect to a financial asset; (2) enters into a futures or forward contract to acquire a financial asset; (3) is the holder of a call option and the grantor of a put option with substantially equal strike prices and substantially contemporaneous maturity dates with respect to a financial asset, or (4) enters into any other transaction described in Treasury regulations that has substantially the same effect as any of the foregoing transactions.[250] A financial asset means any equity interest in a "pass-thru entity" defined to include a regulated investment company, real estate investment trust, S corporation, partnership, trust, common trust fund, passive foreign investment company, or real estate mortgage investment conduit.[251]

In effect, section 1260 treats the taxpayer as if he were obligated to include the current return on his investment in income on a current basis over the life of the transaction but failed to do so.[252] In other words, the taxpayer is placed in roughly the same position as if he had actually owned the underlying financial asset but had failed to pay tax on his investment return on a timely basis.

Issues relating to constructive ownership transactions

Section 1260 applies to reduce the benefit of deferral and character conversion in a relatively narrow set of conditions. Section 1260 only applies with respect to a specified list of "pass-thru" entities and only with respect to a specified list of "constructive ownership transactions." Therefore, a constructive ownership transaction with respect to an asset that is not a pass-thru entity is not affected by section 1260. For example, a taxpayer who enters a total return swap on the stock of a dividend paying corporation has not engaged in a constructive ownership transaction. The discussion of exchange traded notes, below, illustrates tax planning to defer income and convert its character using derivative products with respect to assets other than pass-thru entity interests.

Conversely, a taxpayer entering a derivative transaction with respect to a pass-thru entity that is not a constructive ownership transaction is not subject to section 1260. Although the section authorizes the Secretary of the Treasury to expand the list of identified transactions that have substantially the same effect, no regulations have been issued. An option with respect to an interest in a pass-thru entity is not an identified "constructive ownership transaction." However,

[250] Sec. 1260(d)(1).

[251] Sec. 1260(c)(1) and (2).

[252] This approach is analogous to the treatment of a U.S. shareholder upon a disposition of stock in a passive foreign investment company under section 1291.

options structured to replicate characteristics of ownership risk recharacterization as ownership.[253]

3. Exchange traded notes

Background

Exchange traded notes ("ETNs") are a derivative financial instrument sold to retail investors and traded on major securities exchanges that give investors economic exposure to a wide range of asset classes and investment strategies. Although ETNs are a relatively new financial instrument (the first ETN was issued in 2006), the ETN market has grown rapidly. In the first two years following their introduction, the market for ETNs exceeded $6 billion. Notwithstanding the recent financial crisis and the bankruptcy of Lehman Brothers (a sponsor of several ETNs), the ETN market has continued to expand. As of October 31, 2011, total assets invested in U.S. listed ETNs totaled over $15 billion.[254]

An ETN is a bilateral, executory contract with a relatively long maturity date (*e.g.*, 30 years) pursuant to which an investor makes an initial payment in exchange for a promise by the issuer to pay an amount at maturity. ETNs are structured so that the future payment amount is linked to the return on a notional investment in a specified market index or strategy, less fees owed the issuer. ETNs may, but often do not, pay a current coupon. ETNs are available that track, among other things, changes in the values of physical commodities, currency exchange rate movements, the performance of equities or groups of equities, and a variety of trading strategies.[255] Because ETNs are actively traded during normal trading hours on major exchanges, they afford investors an opportunity to liquidate their investment through sales in an active market.

It is not uncommon for ETNs to track investments that generate a current yield (*e.g.*, dividends, call premiums). ETN terms generally provide that current dividends or other yields on the underlying assets are notionally reinvested, so that the relevant index constitutes a total return index. It may also be the case that the notional investment involves the sale or purchase of the underlying assets. For example, for an ETN tracking a securities index, the specific securities constituting the index may be periodically adjusted in accordance with the predetermined rules of the investment strategy.

The economic position of the investor in an ETN is similar (but not identical) to that of an investor who pursues the underlying investment strategy by, for example, buying and selling the securities that comprise the index directly, purchasing stock in a mutual fund pursuing the same strategy, or holding a partnership interest in a partnership pursuing the same investment

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[253] See, *e.g.*, Chief Counsel Attorney Memorandum 2010-005, October 15, 2010 (treating the holder of a call option on a basket of securities as the owner of the securities for tax purposes where the option holder was economically compelled to exercise the option and essentially managed the basket of securities).

[254] See http://www.nsx.com/content/etf-assets-list (last accessed on November 8, 2011).

[255] The discussion herein is limited, however, to ETNs that reference equity securities.

strategy directly. In addition to timing differences, trading and brokerage fees paid by a direct investor may differ from the management and other fees charged by the ETN issuer. The ETN investor is also exposed to the creditworthiness of the ETN issuer, to whom it will look for payment at maturity, typically as long as 30 years in the future.[256]

Issuers of ETNs are typically financial institutions. These financial institutions typically hedge their exposure under the ETNs by purchasing the underlying assets referenced in the contract or by acquiring an offsetting contract. Financial institutions that are securities dealers for purposes of section 475 are generally required to mark their positions to market with any gain or loss being characterized as ordinary. As a result, net income from the institution's two offsetting transactions would, in effect, constitute fees for serving as intermediary.

Present law

The proper tax classification of ETNs is not entirely clear.[257] ETNs generally are treated as debt for financial accounting purposes, and holders of these securities are subject to the credit risk of the issuer. Nonetheless, the prevailing view among issuers of ETNs and their counsel is that ETNs are not indebtedness for Federal income tax purposes, but should be treated for tax purposes as prepaid forward contracts.[258] This conclusion is based, in part, on analogy to the treatment of other prepaid forward contracts that have been issued in the capital markets in recent years.[259] Thus, ETN market participants take the position that an ETN investor is not required to include in income any amounts of interest, dividends, or gains during the time the ETN investor holds the security, and that any gain or loss recognized upon maturity or other disposition of the security would generally be treated as capital gain or loss.

[256] Although the failure of a major financial institution is comparatively rare, the bankruptcy of Lehman Brothers during the recent financial crisis demonstrated to ETN holders that counterparty credit risk can be a significant issue. Holders of ETNs issued by Lehman Brothers became general unsecured creditors in the Lehman Brothers bankruptcy.

[257] In Notice 2008-2, 2008-2 I.R.B. 252, the IRS requested public comment on the proper tax treatment of ETNs and other transactions referred to as prepaid forward contracts. A number of interested parties responded with differing proposals including the Vanguard Group, the Investment Company Institute, the New York State Bar Association Tax Section and the Securities Industry and Financial Markets Association. The current IRS Priority Guidance Plan includes regulations on prepaid forward contracts. See Department of the Treasury, 2011-2012 Priority Guidance Plan, First Quarter Update (October 31, 2011), p. 12.

[258] Taxpayers take this position with respect to ETNs that are not currency-linked ETNs described in Rev. Rul. 2008-1, 2008-2 I.R.B. 248. In that Revenue Ruling, the IRS finds that a currency-linked ETN is in fact properly classified as debt for Federal income tax purposes. In Notice 2008-2, 2008-2 I.R.B. 252, the IRS solicited comments from the public on how OID accruals should be computed on currency-linked ETNs treated as debt and also solicited comments on the proper tax treatment of non-currency-linked ETNs.

[259] Rev. Rul. 2003-7, 2003-1 C.B. 363.

Issues relating to tax treatment of ETNs

The classification of ETNs as prepaid forward contracts results in significant differences between the timing and character of income from an ETN investment and other economically similar investments. The following discussion seeks to illustrate these differences, and the general principles set out in earlier sections of this report, by examining a hypothetical ETN over a 10-year period.

Dogs of the Dow ETN

Assume that an individual investor wants to invest $1,000 in the stock market, following the Dogs of the Dow investment strategy over a 10-year period. Under this strategy, an investor selects annually for investment the 10 stocks in the Dow Jones Industrial Average with the highest dividend yields (in other words, whose dividend is the highest fraction of their price). The investor invests equal dollar amounts in each of the 10 stocks, and the portfolio is adjusted annually based on the closing price of each stock in the DJIA on the last trading day of the year.

Instead of investing in the stocks directly, assume the investor purchases from the issuer $1,000 worth of an ETN designed to track the Dogs of the Dow strategy.[260] Under the terms of the ETN, the investor receives no payment from the issuer until maturity of the security in 10 years. On maturity, the investor receives an amount equal to the amount he or she would have received from an actual $1,000 investment in a basket of stocks managed in accordance with the Dogs of the Dow strategy over the 10-year life of the security. Current dividends paid on the underlying stocks are notionally reinvested in the basket, and the constituent securities in the basket are annually adjusted in accordance with the predetermined rules of the Dogs of the Dow strategy.

Tax treatment of a direct investment in Dogs of the Dow stocks

The investor investing directly in the Dogs of the Dow portfolio includes in income currently any dividends paid on the stocks in the portfolio. In addition, to the extent that the strategy requires annual sales of stock to adjust the portfolio, the direct investor recognizes capital gain or loss at the time of the sale. Such gain or loss is short-term or long-term, depending upon the holding period for the particular stock sold. The investor also recognizes long-term or short-term capital gain when the portfolio is sold after 10 years, depending upon his holding period for the individual stocks sold.

Similarly, if an investor purchases for $1,000 shares in a mutual fund[261] that tracks the Dogs of the Dow strategy and holds those mutual fund shares for 10 years, the investor includes

[260] The discussion assumes that the investor is not subject to any special rules by virtue of his or her status (for example, that the investor is not a dealer in ETNs) and thus is subject to the general rules governing timing, character, and source of investment income.

[261] Diversification requirements under the Code and securities laws to which mutual funds are subject may preclude a mutual fund from following the Dogs of the Dow strategy precisely, but we have used this example for ease of illustration. The analysis set out herein applies equally to an investment strategy involving a larger and more diverse portfolio of actively managed stocks.

currently each year amounts distributed by the fund reflecting dividend distributions on the underlying stocks and any net gain recognized by the fund in connection with portfolio adjustments.[262] The investor recognizes long-term capital gain or loss upon disposition of the mutual fund shares after 10 years.

Tax treatment of Dogs of the Dow ETN

Treatment of the Dogs of the Dow ETN as a prepaid forward contract produces different tax results for the investor than following the strategy through direct stock investments. The execution of a forward contract generally has no immediate income tax consequence under current law, but is treated as an open transaction until the contract is settled.[263] In addition, if a forward contract is settled by delivery of the property underlying the contract, the taxpayer acquiring the property pursuant to the terms of the forward recognizes no gain or loss and takes a basis in the property equal to the purchase price. If a forward contract is cash-settled, gain and loss are recognized when the contract is settled. This gain or loss is capital if the underlying property is capital in nature.[264] If a forward contract is sold, gain or loss is recognized, and the character of the gain or loss is capital if the forward contract is a capital asset in the hands of the selling taxpayer.

Direct investment in Dogs of the Dow securities results in current annual inclusions of both ordinary dividend income (perhaps eligible for a preferential rate through 2012) and capital gain or loss on dispositions made to adjust the portfolio, some of which may be short-term gain taxable at ordinary income rates. In contrast, investment in the portfolio through the Dogs of the Dow ETN defers all income recognition until maturity (or sale) and allows for the conversion of ordinary dividend income and potential short-term capital gain on portfolio adjustments into long-term capital gain.

The availability of the Dogs of the Dow ETN as an alternative to direct ownership of a Dogs of the Dow portfolio presents a tax planning opportunity for investors. On the one hand, this may suggest that the tax treatment of the ETN, and prepaid contracts more generally, should be changed to conform more closely to the treatment of the returns from actual ownership of the underlying assets. On the other hand, the existing treatment of a prepaid forward contract as an open transaction reflects the principle that income generally is not taxed until realization occurs

[262] Sec. 852. A regulated investment company is effectively required to distribute substantially all of its taxable income to shareholders to avoid taxation of that income at the level of the regulated investment company. An investor may elect to reinvest the distribution in shares of the fund, but the investor is still taxed on the distribution in that circumstance.

[263] The fact that a forward contract calls for prepayment has not been treated as changing the tax treatment of the contract, but compare Rev. Rul. 2003-7, 2003-1 C.B. 363. The normal tax treatment of forward contracts may be affected by special rules applicable to section 1256 contracts, constructive sale transactions, short sales, straddles, hedging transactions, and conversion transactions. Special rules also apply under section 988 to forward contracts that relate to a foreign currency. In the case of forward contracts entered into by a dealer, mark-to-market rules apply under section 475.

[264] Sec. 1234A.

(*e.g.*, upon a sale, exchange, or payment), when the amount of the income is known and the taxpayer has cash to pay the tax.

Exceptions to the realization principle exist under current law pursuant to which taxpayers are required to include imputed income prior to realization. In general, these exceptions apply only in contexts where the taxpayer is assured of receiving at least a repayment of his investment, for example, the rules governing debt instruments with original issue discount. In the case of a contingent debt instrument that yields a return contingent on the performance of an index, an investor is required to include income currently at an imputed fixed rate notwithstanding that he may receive more or less than that amount (including no return at all, if the index performs poorly) when actual payments are made on the debt instrument. (Adjustments are made to reflect differences between the imputed income included currently and actual payments when they are eventually made.) In that case, however, the investor will generally receive at least a repayment of his principal amount under the terms of the debt instrument. The tax treatment of a contingent payment debt instrument can be analogized to the treatment of a fixed rate debt instrument coupled with a swap of the fixed return for a contingent return.

By contrast, the investor in an ETN is not assured of receiving any return at all, including repayment of his original investment. For that reason, the ETN is not subject to the income imputation regime that applies to contingent debt instruments. Rather, to date, ETNs have been classified as forward contracts for which income imputation is not required.

APPENDIX: DATA ON FINANCIAL INSTRUMENTS

Value of financial instruments held or issued by U.S. persons

Table A.1 provides information on the market value of certain basic financial instruments outstanding and held or issued by U.S. persons. In 2010, total credit market instruments outstanding represented $52.5 trillion, the largest component of which was mortgages at $13.8 trillion, followed by corporate bonds at $11.4 trillion, Treasury securities at $9.4 trillion, and government agency and government sponsored enterprise ("GSE") securities at $7.6 trillion.[265] Nearly $3 trillion of municipal bonds were outstanding at the end of 2010. The market value of corporate equities was $23.2 trillion. This is in addition to the value of mutual fund shares ($7.9 trillion) and money market fund shares ($2.8 trillion).[266]

Table A.1.−Market Value of Selected Financial Instruments Outstanding (Billions of U.S. Dollars)

	2005	2006	2007	2008	2009	2010
Money Market Fund Shares	2,007	2,312	3,033	3,757	3,258	2,755
Credit Market Instruments	41,281	45,355	50,045	52,434	52,347	52,494
Open market paper	1,644	1,958	1,789	1,599	1,137	1,058
Treasury securities	4,678	4,862	5,099	6,338	7,782	9,362
Agency- and GSE-backed securities	6,165	6,492	7,397	8,167	8,107	7,598
Municipal securities	2,226	2,403	2,619	2,680	2,810	2,928
Corporate and foreign bonds	8,694	9,982	11,435	11,013	11,508	11,473
Bank loans not elsewhere classified	1,578	1,705	2,027	2,721	1,922	1,874
Other loans and advances	1,901	2,072	2,605	2,712	2,276	1,951
Mortgages	12,075	13,465	14,517	14,610	14,327	13,817
Consumer credit	2,321	2,416	2,555	2,594	2,479	2,435
Corporate Equities	20,636	24,339	25,581	15,641	20,123	23,247
Mutual Fund Shares	6,049	7,068	7,829	5,435	6,962	7,935
Security Credit	1,038	1,250	1,526	1,129	1,091	1,215

Source: Federal Reserve Board, Flow of Funds.

[265] Agency- and GSE-backed securities include debt securities issued by budget agencies (such as the Tennessee Valley Authority and the Federal Housing Administration), GSEs (such as Fannie Mae), and GSE-backed mortgage pools. Until 2010, agency- and GSE-backed securities represented a larger share of credit market instruments outstanding than Treasury securities.

[266] All categories shown in Table A.1 are mutually exclusive. For example, in 2005, the $6 trillion in mutual fund shares does not include the $2 trillion in market value of money market fund shares. As a further example, security credit is not considered a credit market instrument because it is an indirect form of credit. Security credit consists of certain loans to security brokers and dealers from the commercial banking sector for purchasing and carrying securities for which securities are used as collateral, as well as customer balances with brokers and dealers. For additional data descriptions, see table descriptions in the Board of Governors of the Federal Reserve System, *Flow of Funds Guide*, September 16, 2011, available at http://www.federalreserve.gov/apps/fof/FOFTables.aspx.

The financial crisis of 2008 is evident in the data in various ways. Holdings of money market fund shares increased 23.9 percent between 2007 and 2008, perhaps representing a shift in investor portfolios towards lower risk assets. This reallocation along with stock market price declines reduced the value of corporate equities and mutual fund shares by 38.9 percent and 30.6 percent, respectively. Credit market instruments, however, grew throughout the period as increases in Treasury and municipal borrowing and stability among corporate bonds outstanding offset declines in the commercial paper market and bank lending.

New U.S. debt and equity issuances

Table A.2 contains historical information on the volume of new issuances of financial instruments. Data are reported separately for corporate debt, corporate equity, and government debt. Corporate debt consists of straight corporate debt (without conversion features and not backed by specific assets), convertible bonds, asset-backed debt, and mortgage-backed securities issued by corporations other than the GSEs. Corporate equity issuances in the United States are reported separately for common and preferred stock. In addition, Table A.2 includes information on municipal bonds, Treasury debt, GSE debt, and GSE mortgage-backed securities.

New issuances of corporate debt peaked in 2006 at $2.8 trillion, but were less than half that level in 2010. Equity issuances, by contrast, have remained relatively strong, dominated by common stock offerings. Treasury debt issuance has tripled since 2007 to $2.3 trillion.

Table A.2.−Market Value of New Issuance of Debt and Equity Financial Instruments
(Billions of U.S. Dollars)

Year	Corporate Debt					Corporate Equity			Government Debt				
	Straight Corporate Debt	Convertible Debt	Asset-Backed Debt	Non-Agency MBS[1]	Total Corporate Debt	Common Stock	Preferred Stock	Total Corporate Equity	Municipal Bonds	Treasury Debt	Agency Debt	Agency MBS[1]	Total Other Debt
1990	77	6	44	43	169	19	5	24	128	398	55	235	816
1991	160	9	52	59	281	56	20	76	173	466	81	268	987
1992	240	8	56	83	386	73	29	102	235	506	110	455	1,305
1993	340	15	63	118	535	102	28	131	293	507	147	568	1,514
1994	222	12	82	74	390	61	16	77	165	477	158	359	1,158
1995	280	12	113	37	441	82	15	97	162	511	228	269	1,169
1996	343	21	168	52	584	116	37	152	185	612	278	371	1,446
1997	466	26	223	69	785	120	33	153	221	540	323	368	1,452
1998	611	18	287	192	1,107	115	38	153	287	438	596	727	2,049
1999	629	27	287	141	1,084	164	28	192	228	365	548	685	1,825
2000	588	50	282	102	1,020	189	15	205	201	312	447	482	1,442
2001	776	78	326	219	1,399	128	41	170	288	381	941	1,093	2,702
2002	637	31	374	289	1,330	116	38	154	358	572	1,042	1,444	3,415
2003	776	73	462	441	1,751	119	38	156	383	745	1,268	2,130	4,525
2004	781	33	652	533	1,997	170	33	203	360	853	882	1,017	3,112
2005	753	30	754	901	2,438	161	30	190	408	746	669	966	2,790
2006	1,059	63	754	917	2,793	157	33	191	387	789	747	915	2,837
2007	1,128	76	510	774	2,488	188	60	248	429	752	942	1,149	3,272
2008	707	42	140	45	934	165	78	243	392	1,037	984	1,148	3,561
2009	902	33	151	32	1,118	255	10	264	410	2,075	1,086	1,653	5,223
2010	1,063	29	107	19	1,218	239	22	262	433	2,304	1,179	1,403	5,319

[1] Mortgage-backed securities.

Source: Securities Industry and Financial Markets Association.

U.S. equities transaction activity

The SEC reports data on the volume of trading activity on all regulated U.S. exchanges. Table A.3 reports data on the total market value of all sales of equities and options listed on an exchange. It also reports the value of such options that were exercised and the value of single-stock futures that were delivered under futures contracts. Information on options and futures on indices is specifically excluded.

In 2009, there were nearly $60 trillion of equities and options trades on U.S. exchanges along with option exercises and futures deliveries. This was down more than 25 percent from a peak of over $82 trillion in 2008. However, transaction volume in 2009 was still nearly ten times the level in 1995.

Equity trading constitutes over 95 percent of the market value of sales, though options activity has increased as a share of volume since 2002.

The SEC began reporting security futures trading data in November 2002. The final column of Table A.3 reports the number of round-trip (one sale and one purchase) contracts in single-stock futures traded on an exchange. Activity more than tripled from 2003 through 2007, but returned to 2003 levels by 2009.

Table A.3.−U.S. Transaction Activity in Equities, Options, and Security Futures Market Value of Sales (Millions of U.S. Dollars)

Year	Total	Equity Trading	Option Trading	Option Exercises and Futures Deliveries		Security Futures Trading (Contracts)
1991	2,666,702	2,590,422	27,104	49,177		NA
1992	3,148,024	3,077,507	26,586	43,931		NA
1993	4,261,937	4,179,743	33,779	48,415		NA
1994	4,591,283	4,501,577	35,883	53,823		NA
1995	6,321,475	6,207,746	50,803	62,926		NA
1996	8,266,339	8,123,748	67,862	74,729		NA
1997	11,692,830	11,487,872	104,535	100,422		NA
1998	15,164,183	14,903,153	140,261	120,769		NA
1999	23,218,783	22,813,331	260,294	145,159		NA
2000	36,275,278	35,557,087	485,106	233,085		NA
2001	26,138,050	25,636,203	277,549	224,298		NA
2002	23,028,157	22,657,944	161,278	208,935		307,169
2003	22,737,469	22,291,534	164,085	281,851		2,501,247
2004	27,875,851	27,158,223	222,962	494,666		2,175,093
2005	34,567,580	33,222,684	350,365	994,531		5,493,850
2006	43,940,594	41,797,793	531,302	1,611,498		7,793,480
2007	66,135,906	63,064,287	860,659	2,210,959		7,858,431
2008	82,012,446	78,653,007	1,095,766	2,263,674		3,733,682
2009	59,849,805	57,565,681	709,842	1,574,282		2,728,266

NA= Not available.
Source: Securities and Exchange Commission.

U.S. exchange traded and OTC derivatives markets

Notional amounts outstanding

The Office of the Comptroller of the Currency ("OCC") reports quarterly on bank derivative activities and trading revenues based on regulatory Call Report information provided by all insured U.S. commercial banks and trust companies, reports filed by U.S. financial holding companies, and other published data.[267] More than 1,000 insured commercial U.S. banks report derivatives activity as of the end of the second quarter of 2011; however, that activity is heavily concentrated in the largest financial institutions. The top five institutions account for 95.9

[267] See, for example, Office of the Comptroller of the Currency, *Quarterly Report on Bank Trading and Derivatives Activities*, Second Quarter 2011, available at http://www.occ.gov/topics/capital-markets/financial-markets/trading/derivatives/dq211.pdf.

percent of the notional principal amount outstanding of total derivatives, while the top 25 institutions account for 99.9 percent of amounts reported by the OCC.

Table A.4 contains historical data on the notional values outstanding of derivative activity of U.S. commercial banks. While "changes in notional volumes are generally reasonable reflections of business activities," the OCC notes that it "does not provide a useful measure of either market or credit risks."[268] Data are presented by type of contract and by type of derivative instrument.

By type of contract

As of the end of 2010, there were over $231 trillion in notional amount of derivatives contracts outstanding. Interest rate contracts represent about 84 percent of the total at $193.5 trillion, followed by foreign exchange contracts (9.1 percent, $21.0 trillion) and credit derivatives (6.1 percent, $14.2 trillion). Equity-linked contracts and commodity contracts account for less than 1 percent of the notional amount outstanding each.

The notional amount of derivatives outstanding has grown at an average annual rate of 16.2 percent since 1998, when there was just under $33 trillion notional amount outstanding. The growth in credit derivatives has led the expansion of the overall market, increasing at an average annual rate of 42.3 percent, while foreign exchange derivatives and equity-linked derivatives have grown more slowly. The notional value of foreign exchange contracts represented 22.4 percent of all notional amounts outstanding in 1998 compared with only 9.1 percent in 2010.

By type of instrument

Swaps represent nearly two-thirds of the total notional principal outstanding of derivatives reported to the OCC at $149.2 trillion, followed by futures and forwards (15.4 percent, $35.7 trillion), options (13.9 percent, $32.1 trillion), and credit derivatives (6.1 percent, $14.2 trillion).

Swaps have grown as a share of all derivative instruments to 64.6 percent in 2010 from 43.5 percent in 1998. The notional principal outstanding of swaps has increased at an average annual rate of 19.7 percent during that period. As noted above, credit derivatives have also increased dramatically since 1998. Futures and forwards have declined as a share of all derivative instruments from 33.1 percent in 1998 to 15.4 percent in 2010. While the notional principal outstanding of options has increased fourfold since 1998, they have decreased as a share from 23 percent in 1998 to 13.9 percent in 2010.

[268] *Ibid*, p. 8.

Table A.4.−Notional Amounts Outstanding of U.S. OTC and Exchange-Traded Derivatives (Billions of U.S. Dollars)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
By Type of Contract													
Interest rate contracts	24,785	27,772	32,938	38,305	48,347	61,856	75,518	84,520	107,415	129,574	164,404	179,555	193,482
Foreign exchange contracts	7,386	5,915	6,099	5,736	6,076	7,182	8,607	9,282	11,900	16,614	16,824	16,553	20,990
Equity-linked contracts	501	672	858	770	783	829	1,120	1,255	2,271	2,522	2,207	1,685	1,364
Commodity contracts	183	171	222	179	233	214	289	598	893	1,073	1,050	979	1,195
Credit derivatives	144	287	426	395	635	1,001	2,347	5,822	9,019	15,861	15,897	14,036	14,150
Total	32,999	34,816	40,543	45,385	56,075	71,082	87,880	101,477	131,499	165,645	200,382	212,808	231,181
By Type of Instrument													
Swaps	14,345	17,779	21,949	25,645	32,613	44,083	56,411	64,738	81,328	103,090	131,706	142,011	149,247
Futures and forwards	10,918	9,390	9,877	9,313	11,374	11,393	11,373	12,049	14,877	18,967	22,512	26,493	35,709
Options	7,592	7,361	8,292	10,032	11,452	14,605	17,750	18,869	26,275	27,728	30,267	30,267	32,075
Credit derivatives	144	287	426	395	635	1,001	2,347	5,822	9,019	15,861	15,897	14,036	14,150
Total	32,999	34,817	40,543	45,386	56,074	71,082	87,880	101,478	131,499	165,645	200,382	212,808	231,181

Note: Details may not sum to totals due to rounding.
Source: Office of the Comptroller of the Currency.

Revenue

U.S. commercial banks reported $22.5 billion of trading revenue attributable to derivatives for 2010. This was approximately $75 million less than the record of $22.6 billion of trading revenue in 2009. Increases in credit, foreign exchange, and equity derivatives trading revenues offset declines in interest rate and commodity contracts. Table A.5 reports annual trading revenue data for commercial banks and holding companies (since 2008).[269]

OCC reports generally focus on the activity of insured commercial banks. However, investment banks historically have been responsible for a significant amount of derivatives trading revenues. Since the financial crisis, many investment banks have converted to bank holding companies. The former investment banks participated in a significant amount of trading activity that is now included in holding company trading revenue but not in commercial bank trading revenue. Therefore, the OCC began reporting trading revenue for bank holding companies in 2010 to provide a more complete picture of trading revenues in the banking sector.

For 2010, holding company trading revenue was nearly $61 billion, down 10.9 percent from 2009. Increases in credit and foreign exchange revenue were more than offset by declines in interest rate, equity, and commodity trading revenue. For 2008, holding companies lost $53.5 billion as a result of their derivatives trading activity.

Table A.5.−Derivatives Trading Revenue
(Millions of U.S. Dollars)

	2005	2006	2007	2008	2009	2010
Commercial Banks						
Interest rate contracts	4,466	4,618	7,902	866	14,470	6,162
Foreign exchange contracts	6,219	7,953	6,974	11,363	5,595	9,081
Equity-linked contracts	3,108	4,952	2,991	-2,017	1,061	2,051
Commodity contracts	593	1,265	295	1,543	1,460	618
Credit derivatives			-12,673	-12,590	6	4,605
Bank total trading revenue	14,385	18,787	5,489	-836	22,592	22,518
Bank Holding Companies						
Interest rate contracts				-33,673	23,998	4,962
Foreign exchange contracts				12,611	11,457	14,554
Equity-linked contracts				-3,609	17,389	14,542
Commodity contracts				2,331	11,000	5,486
Credit derivatives				-31,159	4,578	21,415
Holding company total trading revenue				-53,499	68,422	60,959

Source: Office of the Comptroller of the Currency.

[269] Office of the Comptroller of the Currency , *Quarterly Report on Bank Trading and Derivatives Activities*, Fourth Quarter 2010, available at http://www.occ.gov/topics/capital-markets/financial-markets/trading/derivatives/dq410.pdf.

Global derivatives markets

Over-the-counter derivatives market

Tables A.6 and A.7 show data presented by the Bank for International Settlements ("BIS").[270] These tables report the notional principal amounts, gross market values, and gross credit exposure outstanding of the worldwide consolidated OTC derivatives positions of major banks and dealers in the G10 countries.[271]

The gross market values of OTC derivates in Table A.7 measure the positive market value of all derivative contracts of entities that report to BIS. It also includes the absolute value of the negative market value of reporting entities' contracts with nonreporting counterparties. A contract has a positive market value for one party to the contract on a particular date if the counterparty would be required to make a payment to that party to terminate the contract on that date (*i.e.,* the contract is in the money). A contract has a negative market value for one party on a particular date if the party is required to make a payment to the counterparty to terminate the contract on that date (*i.e.,* the contract is out of the money).

Gross credit exposure is a measure of the risk that a party to a derivative contract faces if the counterparty defaults on its obligations under the contract. For example, if under a total return equity swap, Party B (the short party under the swap) would be required to pay Party A (the long party under the swap) $100 to terminate the swap on December 31, 2011, because the stock underlying the swap increased in value by $100, the swap contract would have a positive market value to Party A of $100 on December 31, 2011. If Party B is unable to make the payment of $100, Party A loses $100. Party A is therefore said to face credit risk of $100 with respect to Party B.

Suppose that under another derivative contract between Party A and Party B, Party A owes Party B $30. This contract has a negative market value for party A of $30. Party A poses a credit risk of $30 with respect to Party B. If Party A and Party B have a legally enforceable bilateral netting agreement that covers all of the derivative contracts between the two parties, contracts with negative values offset contracts with positive values. Gross credit exposure[272] is the measure of credit risk after netting the positive and negative values. In this case, Party A has gross credit exposure of $70 with respect to Party B.

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[270] Bank for International Settlements, *BIS Quarterly Review*, September 2011, p. A140.

[271] The Group of Ten or G10 refers to the group of countries that agreed in 1962 to participate in the General Arrangements to Borrow to make resources available to the International Monetary Fund: Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom, and the United States. Although Switzerland joined the agreement in 1964 as the eleventh member, the group's name remains the same.

[272] Net credit exposure is the credit exposure under derivatives contracts after considering both the benefits of legally enforceable bilateral netting agreements and any collateral posted by the counterparty. In the example above, if Party B had posted collateral with Party A equal to $10, then the net credit exposure would be $60.

In 2010, there were over $600 trillion in notional value of OTC derivatives contracts outstanding worldwide (including the United States), with a gross market value of $21.1 trillion and gross credit exposure of $3.3 trillion. These amounts have more than doubled since 2005 and have increased approximately sevenfold since 1998. The most common OTC derivative contracts are interest rate contracts, accounting for over three-quarters of the notional principal amounts outstanding as of the end of 2010. Foreign exchange contracts account for about 10 percent of derivative contract volume, credit default swaps five percent, and equity-linked contracts and commodity contracts less than one percent each. Fewer than seven percent of contracts are attributable to positions of counterparties that do not regularly report detailed information.

Table A.6.−Notional Amounts Outstanding of OTC Derivatives
(Billions of U.S. Dollars)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total contracts	80,309	88,202	95,199	111,178	141,665	197,167	258,628	299,261	418,131	585,932	598,147	603,900	601,046
Foreign exchange contracts	18,011	14,344	15,666	16,748	18,448	24,475	29,289	31,360	40,271	56,238	50,042	49,181	57,796
Forwards and foreign exchange	12,063	9,593	10,134	10,336	10,719	12,387	14,951	15,873	19,882	29,144	24,494	23,129	28,433
Currency swaps	2,253	2,444	3,194	3,942	4,503	6,371	8,223	8,504	10,792	14,347	14,941	16,509	19,271
Options	3,695	2,307	2,338	2,470	3,226	5,717	6,115	6,984	9,597	12,748	10,608	9,543	10,092
Interest rate contracts	50,015	60,091	64,668	77,568	101,658	141,991	190,502	211,970	291,581	393,138	432,657	449,875	465,260
Forward rate agreements	5,756	6,775	6,423	7,737	8,792	10,769	12,789	14,269	18,668	26,599	41,561	51,779	51,587
Interest rate swaps	36,262	43,936	48,768	58,897	79,120	111,209	150,631	169,106	229,693	309,588	341,128	349,288	364,377
Options	7,997	9,380	9,476	10,933	13,746	20,012	27,082	28,596	43,221	56,951	49,968	48,808	49,295
Equity-linked contracts	1,488	1,809	1,891	1,881	2,309	3,787	4,385	5,793	7,488	8,469	6,471	5,937	5,635
Forwards and swaps	146	283	335	320	364	601	756	1,177	1,767	2,233	1,627	1,652	1,828
Options	1,342	1,527	1,555	1,561	1,944	3,186	3,629	4,617	5,720	6,236	4,844	4,285	3,807
Commodity contracts	408	548	662	598	923	1,406	1,443	5,434	7,115	8,455	4,427	2,944	2,922
Gold	175	243	218	231	315	344	369	334	640	595	395	423	397
Other commodities	233	305	445	367	608	1,062	1,074	5,100	6,475	7,861	4,032	2,521	2,525
Forwards and swaps	137	163	248	217	402	420	558	1,909	2,813	5,085	2,471	1,675	1,781
Options	97	143	196	150	206	642	516	3,191	3,663	2,776	1,561	846	744
Credit default swaps	NA	NA	NA	NA	NA	NA	6,396	13,908	28,650	58,244	41,883	32,693	29,898
Single-name instruments	NA	NA	NA	NA	NA	NA	5,117	10,432	17,879	32,486	25,740	21,917	18,145
Multi-name instruments	NA	NA	NA	NA	NA	NA	1,279	3,476	10,771	25,757	16,143	10,776	11,753
Index products	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,476
Unallocated	10,387	11,408	12,313	14,384	18,328	25,508	26,613	30,794	43,026	61,387	62,667	63,270	39,536

NA= Not available.
Source: Bank for International Settlements.

Table A.7.−Gross Market Values of OTC Derivatives
(Billions of U.S. Dollars)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total contracts	3,232	2,813	3,183	3,788	6,360	6,987	9,405	9,800	9,791	15,802	35,281	21,542	21,296
Foreign exchange contracts	786	662	849	779	881	1,301	1,546	997	1,266	1,807	4,084	2,070	2,482
Forwards and foreign exchange	491	352	469	374	468	607	643	406	469	675	1,830	683	886
Currency swaps	200	250	313	335	337	557	745	453	601	817	1,633	1,043	1,235
Options	96	60	67	70	76	136	158	138	196	315	621	344	362
Interest rate contracts	1,675	1,304	1,426	2,210	4,266	4,328	5,417	5,397	4,826	7,177	20,087	14,020	14,746
Forward rate agreements	15	12	12	19	22	19	22	22	32	41	165	80	206
Interest rate swaps	1,509	1,150	1,260	1,969	3,864	3,918	4,903	4,778	4,163	6,183	18,158	12,576	13,139
Options	152	141	154	222	381	391	492	597	631	953	1,764	1,364	1,401
Equity-linked contracts	236	359	289	205	255	274	498	582	853	1,142	1,112	708	648
Forwards and swaps	44	71	61	58	61	57	76	112	166	239	335	176	167
Options	192	288	229	147	194	217	422	470	686	903	777	532	480
Commodity contracts	43	60	133	75	86	128	169	871	667	1,898	955	545	526
Gold	13	23	17	20	28	39	32	51	56	70	65	48	47
Other commodities	30	37	116	56	58	88	137	820	611	1,829	890	497	479
Credit default swaps	NA	NA	NA	NA	NA	NA	133	243	470	2,020	5,116	1,801	1,351
Single-name instruments	NA	NA	NA	NA	NA	NA	112	171	278	1,158	3,263	1,243	884
Multi-name instruments	NA	NA	NA	NA	NA	NA	22	71	192	862	1,854	558	466
Unallocated	492	428	485	519	871	957	1,642	1,710	1,709	1,759	3,927	2,398	1,543
Gross Credit Exposure	1,329	1,023	1,080	1,171	1,511	1,969	2,075	1,900	2,036	3,256	5,005	3,521	3,480

NA= Not available.
Source: Bank for International Settlements.

Exchange-traded derivatives market

Table A.8 reports the notional principal amounts of exchange-traded derivatives worldwide, including the United States, in billions of U.S. dollars. Amounts are reported separately for futures and options and by the type of instrument: interest rate, currency, or equity index derivative. As of the end of 2010, there were $22.3 trillion of notional principal outstanding for exchange-traded futures derivatives and $45.6 trillion of exchange-traded options. The volume of futures contracts outstanding has increased tenfold since 1991, while the volume of options contracts outstanding has experienced that rate of increase since 1997. During the entire period from 1986 to 2010, the notional principal amount outstanding of futures contracts increased at an average annual rate of 18.3 percent (led by equity index futures, which grew at 20.2 percent), while the notional principal amount outstanding of futures contracts increased at an average annual rate of 24.8 percent (led by interest rate options, which grew at 26.5 percent).

Turnover in the exchange-traded derivatives market has increased dramatically since 1986. The notional principal amount traded in futures and options on exchanges worldwide was $31.9 trillion and $8.6 trillion, respectively, in 1986. By 2010, these amounts had grown to $343.6 trillion and $135.2 trillion, respectively. On average, futures volume grew at an annual rate of 10.4 percent during this period, while options volume grew at an annual rate of 12.2 percent. Turnover of interest rate contracts led the growth in overall volume at 10.6 percent for interest rate futures and 14.4 percent for interest rate options.

Interest rate futures and options are by far the largest category of exchange-traded derivatives. For 2010, interest rate contracts represent $21 trillion of the notional principal of futures contracts outstanding and $40.9 trillion of the notional principal of options contracts outstanding. They have represented over 95 percent of futures contracts and nearly 88 percent of options contracts since 1986. Equity index contracts are the next largest category of exchange-traded derivates. They constitute on average about 3.7 percent of all exchange-traded futures contracts and 11.5 percent of all exchange-traded options contracts over that period. While currency contracts represented a significant share of exchange-traded options in the late 1980s, since the late 1990s they have accounted for less than one percent of exchange-traded derivates.

Interest rate futures and options account for the largest share of turnover in exchange-traded derivatives as well. They have represented over 91 percent of futures contract turnover and 76 percent of options contract turnover since 1986. Equity index options turn over more frequently than other options contracts; they account for a larger share of trading volume (22.6 percent on average since 1986) than they do for notional principal amounts outstanding (11.5 percent).

Since 1999, turnover has increased faster than notional principal amounts (16.8 percent vs. 9.4 percent). This suggests that contracts are trading more frequently. This is particularly true of futures contracts (16.8 percent vs. 9.3 percent) rather than options contracts (22.9 percent vs. 21.6 percent). As a result the ratio of turnover to notional principal amount outstanding has increased during this period from approximately 7.5:1 to more than 15:1.

Table A.8.−Derivative Financial Instruments Traded on Organized Exchanges
(Billions of U.S. Dollars)

	Notional Principal Amount Outstanding								Turnover							
Data as of December	Total Futures	Interest Rate Futures	Currency Futures	Equity Index Futures	Total Options	Interest Rate Options	Currency Options	Equity Index Options	Total Futures	Interest Rate Futures	Currency Futures	Equity Index Futures	Total Options	Interest Rate Options	Currency Options	Equity Index Options
1986	394	370	10	14	224	146	39	38	31,869	27,488	1,450	2,931	8,626	3,802	585	4,239
1987	520	488	15	18	210	123	60	28	55,836	50,709	1,835	3,292	10,355	5,251	996	4,108
1988	935	895	12	27	370	279	48	43	61,789	56,595	1,983	3,212	9,328	5,740	1,070	2,518
1989	1,258	1,201	16	41	508	388	50	70	93,985	86,904	2,210	4,870	17,063	9,948	1,151	5,963
1990	1,541	1,455	17	69	750	600	56	94	102,020	93,595	2,745	5,681	22,432	15,316	1,253	5,864
1991	2,252	2,157	18	76	1,272	1,073	63	137	107,829	97,657	2,549	7,624	24,671	16,990	1,429	6,252
1992	3,019	2,913	26	80	1,620	1,385	72	163	151,380	142,927	2,400	6,053	33,075	25,881	1,420	5,773
1993	5,105	4,960	35	110	2,670	2,362	76	232	48,688	46,062	715	1,911	10,207	8,233	336	1,638
1994	5,976	5,808	40	128	2,922	2,624	56	243	68,680	65,415	812	2,453	14,259	11,788	281	2,189
1995	6,082	5,876	34	172	3,200	2,742	120	338	56,037	52,681	680	2,676	12,128	9,497	367	2,265
1996	6,212	5,979	38	196	3,806	3,278	133	395	60,934	56,922	655	3,357	12,983	10,233	234	2,516
1997	7,840	7,587	42	211	4,567	3,640	119	809	76,796	72,195	642	3,960	16,160	12,497	226	3,436
1998	8,355	8,031	32	291	5,620	4,623	49	948	75,592	69,990	612	4,991	18,373	14,659	93	3,621
1999	8,304	7,925	39	340	5,286	3,756	22	1,509	62,027	55,734	673	5,620	13,978	9,366	67	4,546
2000	8,353	7,908	78	367	5,897	4,734	21	1,141	72,607	66,652	692	5,263	17,063	12,302	51	4,710
2001	9,675	9,270	73	332	14,081	12,493	27	1,561	117,533	111,140	932	5,461	46,088	38,722	97	7,269
2002	10,357	9,956	52	349	13,475	11,759	27	1,688	119,963	112,492	735	6,736	50,065	39,942	91	10,032
2003	13,708	13,124	88	497	22,992	20,794	38	2,160	152,676	142,978	1,234	8,464	54,583	41,519	132	12,932
2004	18,902	18,165	114	624	27,619	24,604	61	2,954	208,163	195,445	2,346	10,371	70,542	56,574	191	13,778
2005	21,599	20,709	121	769	35,660	31,588	66	4,005	243,570	225,315	3,298	14,958	99,069	76,831	234	22,003
2006	25,676	24,476	179	1,021	43,723	38,116	79	5,528	310,007	285,310	4,664	20,033	120,562	95,791	318	24,453
2007	28,051	26,770	180	1,101	51,037	44,282	133	6,622	375,357	334,405	5,819	35,132	162,903	123,919	655	38,329
2008	19,508	18,732	125	651	38,236	33,979	129	4,128	246,001	214,700	5,122	26,179	133,360	107,515	445	25,401
2009	21,738	20,628	144	966	51,380	46,429	147	4,804	307,224	276,222	7,571	23,431	137,151	106,520	582	30,049
2010	22,312	21,013	170	1,128	45,635	40,930	144	4,560	343,640	307,252	9,182	27,205	135,206	95,986	696	38,523

Source: Bank for International Settlements.